RETHINKING ENVIRONMENTAL DECISION-MAKING PRACTICE
Analysis of Environmental and Climate Change Decisions in Australian Governments

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Abstract: Climate change is one of the most challenging environmental issues in the 21st century. The role of governments was highlighted by the United Nation's Agenda 21 to develop and implement environmental policies and to address issues concerning biodiversity, water, land, and so on. Little is known, however, as to whether and how governments, particularly the local governments address environment issues in a changing climate. Hence, the principal aim of this paper is to analyse environmental decision-making practice of different levels of governments to address simultaneously both environmental and climate change issues. By drawing upon the relevant literature and policy review, the study analyses environmental policy approaches of the three layers of government in Australia. The study focuses on Lake Macquarie City Council in NSW to identify environmental decision-making practice at a local level by analysing three strategic documents of the local government of Lake Macquarie: a) Lake Macquarie Strategic Plan-Lifestyle 2020, b) Lake Macquarie Environmental action plan, and c) Lake Macquarie Community Plan. The idea is to examine if the decision-making practice combines environmental and climate change issues concurrently. The analysis advances the argument about what has been characterised as a 'lost opportunity' – the failure of governments to make and implement both environmental and climate change decisions. The paper concludes by highlighting the need for major re-thinking in the way that environmental decision-making practice is institutionalized at various levels of government to provide effective solutions to climate change and environmental problems.

Keywords: Agenda 21, Australia, Climate change, Environmental decision-making, Local government, Lake Macquarie City Council

INTRODUCTION

Agenda 21 and the United Nations Framework for Combating Climate Change (UNFCCC) emerged from the Earth Summit in 1992 to address environmental and climate change problems. Agenda 21, which is a global action plan to advance global sustainability goals through local actions, recognises the global impact of local environmental problems as well as the impact of local actions to address global environmental problems (Sitarz, 1993). On the other hand, the UNFCCC, a voluntary international treaty, aims to reduce global warming by stabilizing greenhouse gases (GHGs) in the atmosphere. After the UNFCCC came into force in 1994, the treaty introduced the Kyoto Protocol in 1997 to set up mandatory emission reduction targets for the developed nations. The goal was to decrease emissions by at least an average of five per cent against 1990 levels within five years from 2008-2012 (Betsill, 2011). Both policy documents emphasise a strong role for governments to plan and manage environmental resources (Cotter, Hannan, Brennan, & Wescott, 1999). However, Agenda 21 highlights

bottom-up, local actions, while the UNFCCC focuses on the top-down, government-industry actions.

While lauded as a successful conference in 1992, some fragmentation emerged from the Earth Summit in addressing issues of climate change within the environmental context. The environmental issues seem to have taken separate paths for various government decision-making practices. For instance, the conference considered environmental problems under the umbrella of sustainable development, encouraging local actions through Agenda 21. However, it called for the developed nations to reduce emissions of greenhouse gases on a voluntary basis. To this end, the Earth Summit contributed to a policy situation where governments were required to develop both climate change and environmental issues. The concept of this paper is that these policies could have been (or should have been) made within the context of a broader environmental policy framework. However in practice, fragmentation can be seen with an array of separate policies and practices to address environmental and climate change issues, particularly in Australia. Hence, the question of whether and how these policies integrate issues of climate change and the environment, and if they promise to deliver outcomes which are consistent with intentions of the overarching environmental framework of Local Agenda 21 (LA21) is still unresolved. To this end, the principal aim of this paper is to analyse the environmental decision-making practices of Australian governments, focusing on a local government using a case study - Lake Macquarie City Council in NSW. Through this example the paper investigates if both environmental and climate change issues at the local level are addressed concurrently. Specifically, the paper seeks to: (1) Review relevant literature on the environmental movement and climate change, particularly relating to Agenda 21; (2) To identify and discuss contemporary policy approaches to environmental and climate change issues in three layers of government in Australia; (3) To analyse the content of Lake Macquarie's environmental policies to determine if the decision making practice combines environmental and climate change issues; (4) To provide some explanation as to how environmental policy making practice in governments can be improved in a changing climate.

The paper is structured as follows. Following this section, Section Two provides a brief review of global climate change debate and the evolution of environmental movements. Section Three turns to Agenda 21 and the importance of local action and local government to manage environmental issues. Section Four examines environment and climate change policy approaches at the federal and state government levels in Australia. Section Five focuses on policy analysis of a local government - Lake Macquarie City Council - and examines their contemporary environmental policy making practices. Section Six analyses the findings to explain reasons why, and implications of, fragmented environmental decision-making practices at the local government level. Finally, the paper concludes that climate change issues are environmental issues and that they need to be considered within the broader environmental framework. Policy actions should be taken within the overarching framework of Local Agenda 21 to empower the local government if we aim to advance goals of sustainable social, economic and environmental development.

HISTORICAL OVERVIEW OF CLIMATE CHANGE AND ENVIRONMENTAL MOVEMENTS

Unprecedented change in climatic conditions due to human-induced emissions of carbon dioxide (among others) has been and remains a major concern for scientists and decision makers around the world. Carbon dioxide was identified as a major factor causing climatic variation on earth in the 1800s. For example, a study conducted by a Swedish scientist, Arrhenius in 1896 for the first time suggested that increases in carbon dioxide levels (referred to as carbonic acid in the main article) leads to increases in the earth's temperature. Even though he had listed a number of natural causes as the major reason for the carbon dioxide increase, he was conscious that human activities added to those levels in the atmosphere. Arrhenius mentioned that the excessive use of coal, primarily for industrial purposes, was also adding tons of carbon dioxide to the atmosphere (Arrhenius, 1896). Arrhenius' claim about human induced global warming remained outside the scientific discussion up until scientist Guy Callendar published the ground breaking article entitled 'The artificial production of carbon dioxide and its influence on temperature' in 1938. Through his research, Callendar concluded that the earth's temperature increased by 0.005°C in the years 1887-1937 as a result of carbon dioxide released into the atmosphere due to human use of fossil fuels (1938, p. 223). Following Callendar's work, a study conducted by Revelle and Suess in 1957 suggested the possibility of excessive carbon released by humans in the ocean, causing the rising ocean temperature. They also warned about the possible future negative impact of excessive increase in carbon dioxide as a result of excessive use of fossil fuel for industrial purposes. (Revelle & Suess, 1957) These landmark studies became a foundation for others that aimed to investigate the relationship between human induced increases in the earth's temperature and

industrialization. Since the 1970s, a number of studies have highlighted concerns about human activities releasing carbon dioxide to the atmosphere resulting in the rapid rate of global warming (see Chen & Millero, 1979; Keeling, 1973; Oeschger, Siegenthaler, Schotterer & Gugelmann, 1975).

The growing concern about changing climate received considerable international attention in 1972 when governments from around the world participated in the United Nations Conference on the Human Environment or more popularly known as the Stockholm Conference held in Stockholm, Sweden. This conference, considered by many as a milestone in the history of the environment movement (Sitarz, 1993), questioned the rapid rate of industrialisation and its impacts on the environment and subsequently introduced the concept of sustainable development (Drexhage & Murphy, 2010). The conference aimed to protect and improve the environment collectively by the participating governments. Recommendations from this conference led to the establishment of the United Nations Environment Programme (UNEP), the first program within the UN framework with the environment as a focal point (Soroos, 2011).

Concerns related to changing climate and environmental deterioration led to the organization of the first World Climate Conference (WCC) in 1979, organized by the World Meteorological Organization (WMO). The conference highlighted that climate change was a serious problem and that knowledge about climate change and understanding its impact on humanity and the environment needed immediate improvement (White, 1978). The World Climate Programme (WCP) was established by the conference to further understand the changing climatic conditions at an international level (White, 1978, p. 233).

In the 1980s, numbers of international events were held focusing on human-induced environmental problems. The UNEP's major events are worth considering. In 1980, the UNEP in collaboration with the International Union for the Conservation of Nature (IUCN), and the World Wildlife Fund (WWF) established the World Conservation Strategy (WCS) to integrate environment and development issues into appropriate resource management and policy guidance. The WCS called for nations to formulate their own national conservation strategies. In 1985, the UNEP together with the WMO and the International Council of Scientific Unions (ICSU) organized a conference in Villach, Austria. The conference urged scientists and policy makers to work together to find appropriate solutions to the problem of climate change that could operate through policy measures (Jäger, 1992). Two follow-up

workshops were held in 1987. The first workshop was held in Villach, Austria to examine the possible future impacts of increasing greenhouse gases as well as to explore technical, financial and institutional options to limit or adapt to a changing climate. The second workshop was held in Bellagio, Italy to consolidate the achievements of the first workshop and to explore possible policy and implementation measures including options for suitable institutional arrangements (Jäger, 1988). The report from the Bellagio meeting provided a basis for the World Conference on changing climate held in Toronto in 1988 (Oppenheimer, 1989). The conference, attended by 46 countries, highlighted the need to reduce global greenhouse emission and called for immediate actions to reduce it by 20% of the 1988 level by 2005 (Jäger, 1992, p. v).

In 1988, the joint efforts of the World Meteorological Organization (WMO) and the UNEP at the Toronto conference led to the establishment of the Intergovernmental Panel on Climate Change (IPCC) (Oppenheimer, 1989). The goal of the IPCC was to provide scientific knowledge about climate change and its potential environmental and socio-economic impacts. The IPCC produced and released its first report in 1990, which through rigorous scientific evidence and analysis confirmed human-induced global warming.

The idea of sustainable development that emerged during the Stockholm conference provided a basis for the establishment of the World Commission on Environment and Development (WCED) also known as the Brundtland Commission in 1983. Given the increasing level of environmental problems due to persistent failures of government to tackle these problems, the purpose of the WCED was to find practical ways of addressing environmental and developmental problems simultaneously. After four years, a report called 'Our Common Future' was published in 1987, which integrated the idea of the environment and development and suggested policy approaches and pathways for sustainable development. The report recognised the need to consider deterioration of environment due to uncontrolled economic development. The concept suggested that people should use available resources judiciously so that future generations are not deprived of resources. The report explicitly mentions that the activities of humanity are causing environmental deterioration that is resulting in life-threatening environmental problems. Even though the report did not explicitly use the term 'climate change', it did recognize that global warming due to burning of fossil fuels is responsible for an increased rate of flooding, drought, sea level rise and other issues

(Brundtland, 1987). The WCED report provided a very poplar definition of sustainable development as: development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (WCED, 1987, p.8)

Driven by the idea of sustainability in the Brundtland Report and the realization of the need to take urgent action against environmental and development problems, the UN Conference on the Environment and Development (UNCED), more popularly known as the Earth Summit or Rio Summit, was held at Rio de Janeior in Brazil in 1992. This event was organized to mark the 20 years since the first global environment conference held in Stockholm. The 1992 conference focused on the importance of actions at the local level to address environmental problems. The summit yielded five key documents: (a) Agenda 21 (b) The United Nations Framework Convention on Climate Change (UNFCCC) (c) The Rio Declaration on Environment and Development (d) The Statement of Principles for the Sustainable Management of Forests. (e) The Convention on Biological Diversity.

Agenda 21 was one of the major outcomes of the Rio Summit and recommends locally-based solutions to environmental problems arising from economic development. It proposed the involvement of various stakeholders in societies such as women, youth, indigenous people, local governments, non government organizations and so on. The Rio Declaration consists of 27 principles and supports Agenda 21 by defining the rights and responsibilities of States. These agreements were adopted by 178 governments attending the conference, aiming to adopt a new and sustainable approach to development.

Guided by the consensus and acceptance of the existence of an anthropogenic increase in GHGs in the atmosphere, a voluntary international treaty, the UNFCCC, was also established during the conference. The main aim of this treaty was to reduce global warming by stabilizing GHGs in the atmosphere. After the UNFCCC came into force in 1994, the treaty introduced the most well known and most debated protocol to combat climate change, the Kyoto Protocol, during a conference held at Kyoto, Japan in 1997. The Kyoto protocol recognizes that developed countries are responsible for emitting most large quantities of GHGs in the atmosphere from industrial activities. Therefore, the protocol set a binding target for 37 industrialized countries and the European Community for reducing their greenhouse gas (GHG) emissions by at least an average of 5 per cent against 1990 levels from the period from 2008-2012 (Betsill, 2011). The Kyoto protocol entered into

force during the first meeting of the parties in 2005. The treaty was signed by 192 nations.

This brief overview of environmental history above suggests that the concern for a changing climate was perceived as an environmental concern long before the term 'climate change' was popularised. The concern for changing environment led to the establishment of international institution like UNEP and many international conferences. After the Rio Summit introduced UNFCCC, climate change seemed to get deviated from being treated as an environmental issue and rather started being discussed as a separate concept. After the introduction of the Kyoto Protocol, climate change became a topic of debate and political agenda at national and international levels.

AGENDA 21 AND ENVIRONMENTAL DECISION-MAKING

Agenda 21 is a comprehensive plan of action to achieve sustainable development. It recommends solutions to environmental problems through local action (UN Conference on Environment and Development, 1993). This blueprint was signed by 178 heads of government and includes 40 chapters divided into four sections as follows: (a) Social and economic dimensions; (b) Conservation and management of resources for development; (c) Strengthening the role of major groups, and (d) The means of implementation.

Section three of this document stresses the importance of the involvement of all groups of society as a major factor in the successful implementation of government plans and policies. Within Agenda 21, Chapter 23 of this section emphasizes the need for public participation in policy formulation and decision making to achieve sustainable development. As such it stresses the need for all members of society (individuals, groups and organizations) to have knowledge about, and to participate in, environment and development decisions, particularly those that have major impacts. Chapter 28 within Section 3 identifies the importance of local authorities in establishing local environmental policies and regulations to assist in implementing national and state level environmental policies. In this context, Chapter 28 of the document has identified local government as the most appropriate level of government to address environmental issues because it is closest to the community and to the environment. The document necessitates that local authorities formulate a Local Agenda 21 to achieve sustainable development goals. Local Agenda 21 also calls for communities (citizens, local organizations and private enterprises) to participate in the process of development and

implementation of local plans and policies. However, the agenda does not prescribe how and what plans are made and how they should be implemented. Instead, it makes a broad statement that the local plans should be developed according to the needs of the people with the participation of people and that people should be educated and mobilized for this (Smardon, 2008). It is worth noting that Agenda 21 also briefly considers about the climate change issues, but this is limited to the impact of climate change on water resources.

Effectiveness of Agenda 21

Agenda 21 has been considered to be a major document with potentially effective practical implications (Evans & Theobald, 2003; Töpfer, 2002). While the strategies and intentions of the document were adopted by many countries, its application has been seriously questioned. Otto-Zimmermann (1994, p. 115), for example, refers to Agenda 21 as a deficient document in that it does not addresses the role of local governments in many issues and hence does not provide a realistic platform for actions.

Scholars have different opinions regarding the slow progress of Agenda 21. Lawrence (1998) highlighted that since decisions regarding prioritizing issues are made by the budget and finance people, managers and politicians, the disconnection between LA21 and these groups has marginalized LA21 efforts. She suggests for an organizational transformation to change the agenda into action. Whittaker states that: Without promoting and evaluating initiatives and demonstrating to unconverted councils its value, not only in terms of local sustainability but also as good management and a mechanism for enhancing local democracy, Agenda 21 and Local Agenda 21 is likely to remain at an abstract level with fewer and fewer people finding it relevant. (1997, p. 326)

In this context, Kern et al. (2004) identified three factors as essentials for effective diffusion of Agenda 21 at the local community level: (1) Local authorities' capacities for action. (2) Financial and political support from national and regional governmental Organizations. (3) International, national and regional agenda transfer institutions which facilitate the exchange of knowledge and know-how between local authorities.

In Australia slow progress has been reported with regards to the implementation of LA21. In 1996, the National Local Sustainability and Local Agenda 21 survey was conducted with 192 councils across Australia to evaluate the implementation status of LA21 by councils. The report prepared by Whittaker revealed that adoption of Local Agenda 21 had been slow because of the lack of support and encouragement by the Federal and state governments as well as the local government associations and agencies. The study results suggested that the highest level of response to LA21 implementation had been in South Australia, Victoria and NSW (Whittaker, 1997, p. 319). Following this conclusion, Mercer and Jotkowitz (2000) conducted a study with 10 Councils in Victoria to measure the progress and concluded that the progress is slow mainly because of lack of support from the federal government and the lack of finance.

Climate change and local actions

Climate change has been debated as a global problem, but its impacts are most visible at the local community level. International institutions and agreements have played a major role in imposing environmental and climate change policies and actions at a global scale with agreements being signed or rejected by the heads of nations. What is striking is that these agreements often focus on the national and international policy goals, but fail to attend to the fact that these agreements would only result in concrete outcomes when local communities are engaged in the process to identify and manage issues, and to implement joint solutions. These so called 'Global Actions' will ultimately be the result of efforts made by local institutions, communities and individuals as a result of their behavioural changes (Agyeman, Evans, & Kates, 1998). A wide group of scientists argue that even though climate change is a global problem, it can be best solved by local level actions (See Agrawal & Perrin, 2008; Prins & Rayner, 2007; Wild River, 2006). The local level initiatives are particularly important because these problems are generated as a result of local activities at specific locations (Betsill & Bulkeley, 2005). The ways in which governments, communities, and individuals respond to the impacts of climate changes and variability is likely to determine their prospects for development and sustainability (Agrawal, Konen, & Perrin, 2009). Therefore, policies at local level can be formulated to address global problems like climate change (Collier & Löfstedt, 1997). To this end, it is also important to note that even though local level initiatives are critical for successful outcomes, there are also records of failure of local scale climate change action (see Lindseth, 2004).

As previously mentioned, scholars have highlighted the importance of local authorities in achieving sustainable development by addressing environmental and climate change issues. In this context, Mehta (1996) suggested that local authorities can facilitate sustainable development by planning

and provision of services to the communities. Wild River (2006) has highlighted the role played by local governments in delivering beneficial environmental outcomes. Her study revealed that local governments in Australia play a central role in planning for and managing environmental problems and take up environmental actions as and when needed by the community and are often beyond their statutory requirements. Local governments are also able to see and understand the environmental problems from the local context, from an 'inside-out' position and to find grounded solutions to the problems (Wild River, 2002). Local governments not only have the power to make decisions regarding transportation, energy and land use planning, but they also have some power to make and implement climate change policies at the local community level (Betsill & Bulkeley, 2005; Collier & Löfstedt, 1997).

ENVIRONMENT AND CLIMATE CHANGE POLICY IN AUSTRALIA

The separation of climate change and environmental issues is explicitly reflected in Australian environmental plans and policies at the federal and state levels. Interestingly, however, at the local level, this separation is minimal and this can be clearly seen in the case of Lake Macquarie City Council below.

Policies at the federal level

Climate change is an issue of considerable political debate in Australia (Carson, Louviere, & Wei, 2010; Hamilton, 2001). After the UNFCCC introduced the mandatory Kyoto Protocol in 1997, the climate change issue attracted much exaggerated media attention in Australia. Being an industrialized country, Australia resisted ratifying the Kyoto Treaty for some time by arguing that the country's economy is highly dependent on fossil fuels. However, since Australia has one of the highest per capita levels of greenhouse emissions, the emission reduction is a matter for ongoing political and scholarly debates. This debate sometimes led to various forms of contradiction between environment ministers and their departments, and the energy ministers and their departments (Hamilton, 2001). Even though the Federal Environment Minister argued that climate change is an environmental issue that needs an environmental approach, the Energy Ministers felt liable for the emission of greenhouse gases that occurs as a result of burning fuel and argued that it is their responsibility to reduce the emissions (Hamilton, 2001, p. 32). This led to the formation of separate departments for environment and climate change, the Department of Sustainability, Environment, Water, Population and Communities and the Department of Climate Change and Energy Efficiency.

The Department of the Environment was established as the Department of the Environment, Aborigines and the Arts in 1971 to manage environmental issues at the federal level. Since its establishment, however, it has undergone many changes associated with government bureaucracy. The table 1 shows the forms that it has taken from 1971 until now.

From the table 1 it is clear that the issues of climate change have not been the subject of specific as an environmental issue by the Australian Government. In 2007, instead, a separate department for climate change was established. However, these two separate departments (the Department of Environment and the Department of Climate Change) often compete for resources, formulate plans and policies separately, work separately for the same issue and define environmental issues and climate change issues separately.

It is revealing to compare the two departments responsible for environmental and climate change issues in Australia. The Department of Sustainability, Environment, Water, Population and Communities manages a range of issues including air, water, land, biodiversity conservation, marine ecology, parks and reserves, and heritage. These are considered to be the core of environmental problems and the department has developed sets of policies for each area. Most of the strategies are based on the principle of Ecologically Sustainable Development (ESD). The Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) of the department provided schemes for environment and heritage protection and biodiversity conservation. This coverage of the national level act can be argued to be manifestly deficient due its failure to embrace climate change as an integrated part of the environment.

In contrast to the department described above, The Department of Climate Change and Energy Efficiency has its own set of policies that are aligned with the global policy to reduce greenhouse gas emissions. At present, climate change is a topic of considerable political debate in Australia. Carson et al. (2010) state that unlike anywhere else in the world, climate change policy in Australia has played a significant role in national elections. Being a country which has one of the highest levels of per capita greenhouse gas emissions, the Federal Government's main target has been to formulate and implement plans and policies to reduce greenhouse gas emissions.

Table 1: Transformation of Department of Environment

Name of Department	Period
Department of the Environment, Aborigines and the Arts	31 May 1971 - 19 December 1972
Department of Environment and Conservation	19 December 1972 - 21 April 1975
Department of the Environment	21 April 1975 - 2 December 1975
Department of Environment, Housing and Community Development	22 December 1975 - 5 December 1978
Department of Science and the Environment	5 December 1978 - 3 November 1980
Department of Home Affairs and Environment	3 November 1980 - 13 December 1984
Department of Arts, Heritage and Environment	13 December 1984 - 24 July 1987
Department of the Arts, Sport, the Environment, Tourism and Territories	24 July 1987 - 27 December 1991
Department of the Arts, Sport, the Environment and Territories	27 December 1991 - 24 March 1993
Department of the Environment, Sport and Territories	24 March 1993 - 9 October 1997
Department of the Environment	9 October 1997 - 21 October 1998
Department of the Environment and Heritage	21 October 1998 – 30 January 2007
Department of the Environment and Water Resources	30 January 2007 – 2 December 200
Department of the Environment, Water, Heritage and the Arts	3 December 2007 -13 September 2010
Department of Sustainability, Environmental, Water, Population and Communities	14 September 2010 - Current

(Dervied from: Department of Sustainability, Environment, Water, Population and Communities, 2010)

The current extensive political debate at the national level in Australia is that about an Emission Trading Scheme or a Carbon Pollution Reduction Scheme and carbon tax with the government and opposition debating for and against this policy.

Policies at the State level

In Australia, there are six states, New South Wales, Queensland, South Australia, Tasmania, Victoria and Western Australia, and two Territories - Australian Capital Territory and the Northern Territory.

Each State and Territory has their own department devoted to environmental issues. Some States have departments that combine both environment and climate change issues within a single department while others have separate departments.
The Table 2 shows some degree of organizational disjuncture in the State Departments. In some states and territories the organizational disjuncture appears absent. However, they have different sets of policies and programs for climate change and the environment. For example in the ACT, both issues exist under separate policy reforms despite having the same department for both issues. As the Lake Macquarie Council is within the State of NSW, this article focuses on the policy disjuncture in NSW.

In NSW, the Office of Environment and Heritage (OEH) is a key agency responsible for planning, managing, implementing and coordinating activities to address environmental issues. Legitimately, the OEH is also responsible for taking initiatives on climate change. However, the issue of climate change is placed in a separate context from other the environmental issues. For example, the OEH considers issues of water quality and supply, air pollution, noise pollution, land contamination and soil degradation due to chemicals and pesticides, hazardous materials, waste as environmental issues, however, climate change is not listed as an environmental issue. The state governments' attitudes towards climate change and environmental issues as separate is also reflected by the change of name of the department from the Department of Environment and Climate Change to the Office of Environment and Heritage.

Table 2: Departments charged with the responsibility for environment and climate change issues at state level

State	Department
Australian Capital Territory (ACT)	Department of the Environment, Climate Change, Energy and Water
New South Wales (NSW)	Office of Environment & Heritage
Northern Territory (NT)	Department of Natural Resources, Environment, the Arts and Sport
Queensland (QLD)	Department of Environment and Resource Management Office of Climate Change
South Australia (SA)	Department of Environment and Natural Resources Sustainability and Climate Change Division, Department of the Premier and Cabinet
Victoria (VIC)	Department of Sustainability and Environment
Western Australia (WA)	Department of Environment and Conservation
Tasmania (TAS)	Department of Primary Industries, Parks, Water and Environment Tasmanian Climate Change Office

(Derived from: Department of Sustainability, 2011)

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and Heritage. Since the OEH treats climate change as a separate issue not as an environmental issue, there are separate acts and plans. The acts under the environment class of legislation includes the Environmental Planning and Assessment Act 1979, the Forestry Act 1916, the Water Act 1912, the Water Management Act 2000, the Sydney Water Catchment Management Act 1998 and so on (Office of Environment and Heritage). The Environmental Planning and Assessment Act 1979 primarily provides guidance for natural resource management and conservation, land use and management and biodiversity conservation (NSW Government). The acts under the climate change class of legislation includes the NSW Greenhouse Gas Reduction Scheme, the NSW Greenhouse Plan, the NSW Sea Level Rise Policy Statement and the NSW Coastal Planning Guideline and so on (Office of Environment and Heritage).

As well as being the responsibility of the OEH, environmental issues are also responsibilities of other NSW government agencies such as the Department of Planning and Infrastructure providing environmental planning policies and, the Department of Primary Industries concerned with forestry and agriculture issues, however, with no claim to considering climate change issues.
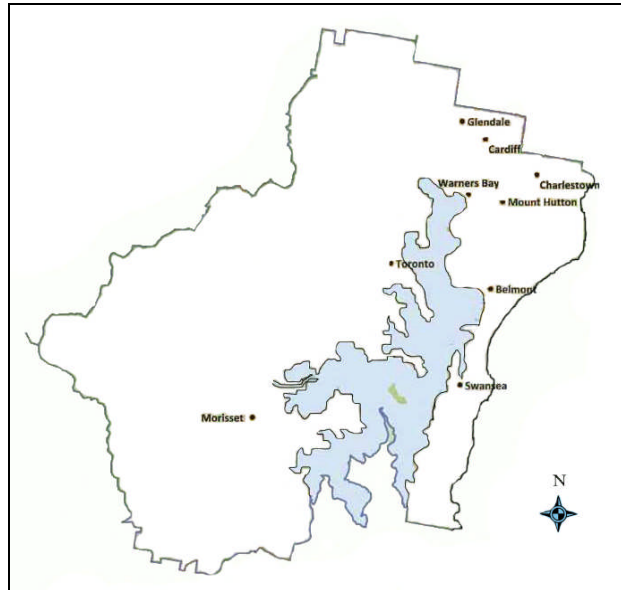
Figure 1: Map of Lake Macquarie Council area (Derived from: Lake Macquarie City Council, 2011a, p. 7)

Local level policies

There are 152 local councils in NSW and each exists under the Local Government Act 1993 that provides regulatory power and responsibilities. The councils' operations are guided by the legislative framework of state governments, however, they also possess the power to make and enforce their own laws under certain circumstances (Snowy Mountain Engineering Corporation, 2010).

The Environmental Planning and Assessment Act 1979 is the basis for the formulation of environmental policies by local government and almost all councils have formulated their environment and climate change plans and policies. Since the focus of the paper is Lake Macquarie City Council, the following section will focus solely on the policies and plans of the Local Government of Lake Macquarie City Council.

LAKE MACQUARIE CITY COUNCIL: A CASE STUDY

While the federal and state governments dis-integrated environmental and climate change policies, the Local Government of Lake Macquarie seems to be an example of local government that has effectively combined these issues and this can be seen by an analysis of the major strategic documents of the council.

Background of Lake Macquarie: Demographic profile

Lake Macquarie city (Figure 1) is the largest city in the Hunter region of NSW. (All of the following statistics have been drawn from City of Lake Macquarie environmental sustainability action plan 2011-2018). The city covers an area of 787.4 sq. km. Located on the eastern coast of Australia; the city has one of the largest coastal saltwater lakes in Australia. The city has a population of over 200,000 which is expected to grow by 60,000–70,000 people over the next 25 years. Lake Macquarie is one of the fastest growing cities in the Hunter, seventh from the top in Australia, and the fourth largest in New South Wales (Lake Macquarie City Council, 2011a).

Strategic policies of Lake Macquarie

Lake Macquarie Environmental Action Plan
In 1996, the council developed the 'Environmental Management Plan' as a response to Agenda 21 (Lake Macquarie City Council, 2004). However, it is noteworthy that during the early development phase of the environmental plans by the council, the council failed to perceive climate change as an environmental issue. This was explicitly reflected in the environmental policies of the council, which were very much aligned with the state and federal policies. The plan identified eight major thematic areas: (1) Polluted areas and pollution, (2) Waste management, (3) Litter, (4) Energy and water conservation,

(5) Environmental sensitive areas, (6) Landscape and vegetation, (7) Wildlife habitat and corridors and (8) Environmental restoration projects (Lake Macquarie City Council, 2004).

Despite the seeming holistic approach and broad ranging coverage of the plan, it was ironic that the climate change theme was not included. The plan did not provide any measures to reduce emissions or to adapt to climate change issues. The failure might have been because the themes were selected from the Local Government Act (1993) State of the Environment reporting categories which also failed to include climate change. Hence, the State government's legislative provisions had a major impact on the way in which the Council organized its activities in relation to both the environment and to climate change.

The Lake Macquarie Estuary Plan (1997) and the Lake Macquarie Storm water Management plan (1999) were other plans that were adopted during late 1990s. A review of these three plans led to them being integrated into a single plan. As an integrated environmental management plan, the Lake Macquarie Environmental Action Plan (LMEAP) was produced in 2004. The plan suggested 15 emerging and priority issues all of which suggest that conservation in various forms had been the major environmental issue. Integration of environmental, social and economic issues to achieve sustainability was also identified as a priority issue. The LMEAP was seen as a 'living document' which could undergo changes according to the changing priorities of the community and the council (Lake Macquarie City Council, 2004). However, climate change problems were not explicitly highlighted.

The LMEAP has recently been revised and is now being replaced by the Lake Macquarie Environmental Sustainability Action Plan 2011-2018 (Lake Macquarie City Council, 2011a). The revised plan now includes climate change issues within the broader environmental theme. It is noteworthy that the low-lying and undulating settlement pattern along the coast and lake bank of Lake Macquarie is highly vulnerable to inundation and flooding. The plan has identified ten priority areas and includes a greenhouse gas emission reduction target, which is to be achieved by promoting renewable energy sources. The council is also developing a sustainable energy policy in consultation with the community and has considered adaptation to be a priority area. The council anticipates reducing the risks due to climate change - for which it will develop and implement climate change adaptation policies and programs. Further, the council is working towards identification of potential environmental threats. It is clear that the

Council is actively pursuing climate change agendas within the broader environmental agenda and is working with communities to develop and implement various plans and policies. This is in sharp contrast to the ways in which policies of the State and Federal governments are made and implemented.

Lake Macquarie Lifestyle 2020

In 2000, the council released its most ambitious policy, named the 'Lifestyle 2020 Strategy' and some of the issues addressed in that strategy are presented here. The aim of this strategic document was to achieve overall planning and development of the city with appropriately directed land use and management (Lake Macquarie City Council, 2009). The plan was guided by the values of sustainability, equity, efficiency and liveability. This strategy encompassed the need to integrate the environmental, economic, social and cultural elements in a sustainable manner. Even though there was no explicit mention of climate change as a challenge for the council, the 2020 plan clearly promoted various climate change policies such as the use of renewable resources (Lake Macquarie City Council, 2009). This policy document is now undergoing a review and a draft Lifestyle 2030 was released in February 2011 (Lake Macquarie City Council, 2011b). The revised document takes into account the issues of climate change explicitly and the revised policy incorporates strategies including increased preparedness for climate change through adaptable infrastructure and buildings. The new plan also aim to reduce per capita ecological footprint.

The Lake Macquarie Community Plan 2008-2018

The Lake Macquarie Community Plan 2008-2018 emerged as a pathway for implementing 'Lifestyle 2020' - and now 2030 as mentioned above). The policy is an outcome of the partnership between the community and the council in Lake Macquarie. The policy highlights community participation and encompasses five key focus areas: (1) Caring for the environment (2) Caring for the community (3) Sports, recreation and culture (4) Transport, roads and drainage (5) Urban and economic development
Within the key focus is 'caring for environment', and the community plan anticipates developing plans and policies for climate change mitigation and adaptation with active participation of communities. Within the plan, the council plans to reduce the carbon footprint of the area by 3% annually and is on its way to identify and measure potential risks to and from the environment (Lake Macquarie City Council, 2008).
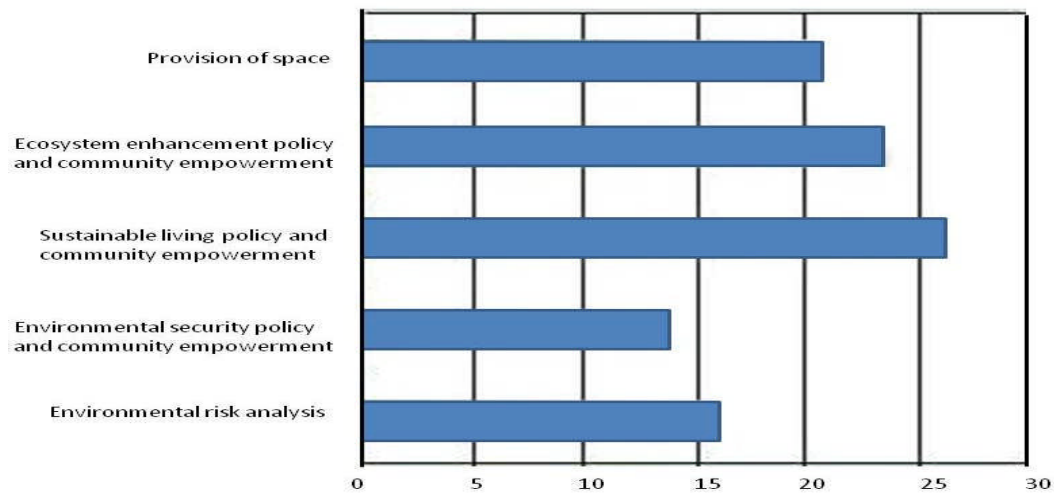
Figure 2: Caring for environment priority areas (Derived from: Lake Macquarie City Council, 2008, p. 17)
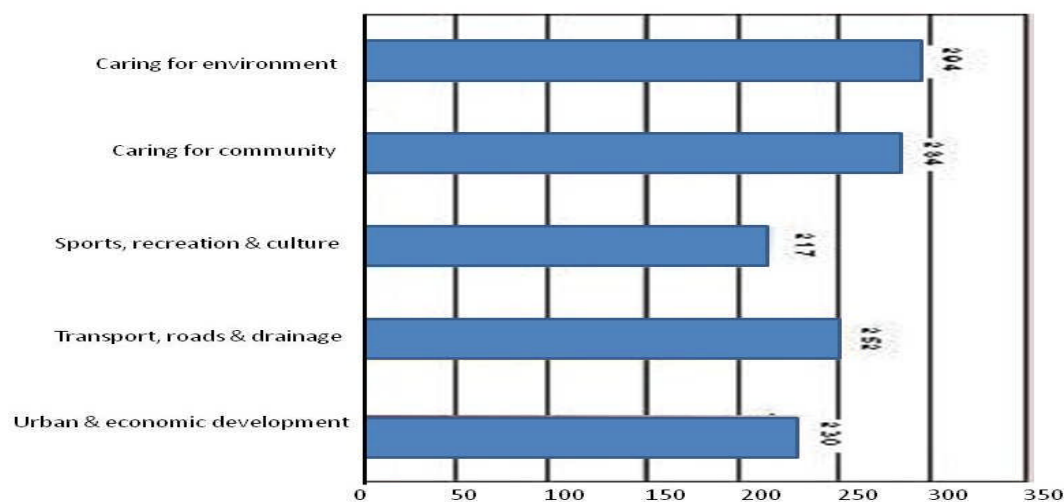

Figure 3: Focus area totals (Derived from: Lake Macquarie City Council, 2008, p. 16)

The decision to put these activities within the 'caring for environment' section can be regarded as an appropriate approach for successful implementation of climate related plans and achievement of anticipated targets. In a community survey conducted by the council to identify community priorities, the results demonstrated that the community at Lake Macquarie is not well informed about climate change and its consequences (Lake Macquarie City Council, 2008). The low percentage of people choosing 'environment risk analysis' and 'environment security policy' as priority areas (Other options included provision of open space, ecosystem enhancement policy, sustainable living policy, environment security policy, and environment risk

analysis) suggested that people had a limited understanding about climate change. However, when participants were asked to rank the above five focus areas, 'caring for the environment' was ranked the first and foremost priority area (Lake Macquarie City Council, 2008). The Figure 1 and Figure 2 show the community perception of various priority environmental areas.

The Figure 2 and 3 results suggest that the community is very much concerned for the environment in Lake Macquarie. The integration of climate change within environmental policy by the Council gives the community the opportunity to see climate change as an environmental issue and

community participation and involvement might be higher.

ANALYSIS

The review of policies above indicates that there is a degree of fragmentation in environmental decision-making practice at the international level as well as at the Australian Federal and State Government levels. However, the Local Government in Lake Macquarie seems to integrate these issues at the local community level and they are also working more closely with the community to plan and implement policies to deliver outcomes of local significance. The important question to emerge is why is it that (at least one) local government is able to integrate these issues much better than international, national and state level governments. Four key reasons may be suggested.

Firstly, local governments are best placed to see and understand that environmental and climate change issues are essentially overlapping and that separating these issues will make no clear sense. Integrating these issues makes sense in terms of efficiency, sustainability and equity. Local governments have been argued to be successful in understanding the environmental problems from a local context and provide grounded solutions. Climate change is a local environmental problem generated at a local level due to local activities, has a major impact at local levels and the best solution can also be generated by local actions. The changing climate was seen as an environmental issue from historic time. It is unreasonable to separate the two issues because of political disputes or other reasons such as bureaucratic organisations.

Secondly, local governments have the legitimacy to perform such tasks because they are elected and supported by the local community. Local government representatives are the people elected by the community and hence are accountable to their communities. They have a broader political support through the processes of democratizing and decentralizing decision making. Local government has been addressed as the level of government closest to the community by internationally acclaimed documents such as Agenda 21. A great source of knowledge and skill capital is generated if communities are engaged and the literature suggests that local governments are working with communities according to the community needs. The community consultation approach results in practical solutions to community problems.

Thirdly, local governments integrate environmental and climate issues for practical reasons relating to financial constraints. Scholars (See for example Mercer & Jotkowitz, 2000; Whittaker, 1997)have argued that local governments have often been neglected by federal and state governments especially in terms of allocating sufficient funds. In fact, lack of financial support has been argued to be one of the major reasons hindering the uptake of Agenda 21. Due to limited finances, local governments cannot afford to have duplication in many departments as can be argued in relation to the case of federal or state level governments. Such duplication is unnecessary and might be considered as a waste of resources.

Finally, local governments have some legislative freedom to be able to meet community needs. The authority provided to the local government to 'provide generally for the good government of their local government area' have empowered local governments to take action in any area which are not prohibited by other legislations (Snowy Mountain Engineering Corporation, 2010). Scholars (See for example Wild River, 2002) have suggested that local governments have been formulating laws as and when required.

The international community had great faith in the Kyoto Protocol to solve the problems of climate change as a global environmental problem. However, politicians and delegates from the United States of America and Australia has been reluctant to ratify the Protocol (Prins & Rayner, 2007). Many scholars have also criticized the concept embodied by the Kyoto Protocol and have argued it to be an ineffective measure. For example Prins and Rayner (2007) have argued that the globally renowned Kyoto Protocol is a paralyzed strategy promoted by the policy community to counteract the global problem of climate change. The authors call for a radical rethinking of climate policy and emphasizes that a bottom-up approach is imperative.

The review of the strategic documents of Lake Macquarie City Council suggests that unlike the international policies and the federal and state governments in Australia, this local council has been successful in looking at climate change as an environmental issue by including climate change issues within the environmental domain of its strategic documents. This highlights the efficiency of local councils to address local environmental problems like climate change. The council has been successful in establishing itself as an example of local councils in Australia which have been working for the benefit of the community and addressing community needs, as anticipated by Agenda 21. Therefore, it is imperative for the federal and state governments to learn lessons from local governments and to take up environment and climate change decisions simultaneously. There is also need to empower local governments to tackle environmental issues including climate change and this could be

done by reviving and promoting Local Agenda 21, currently (at the beginning of 2012), the most appropriate instrument for a bottom-up approach. Empowering local governments through Local Agenda 21 will also eliminate the unnecessary formation of layers of jurisdiction to manage environmental problems.

CONCLUSION: RETHINKING ENVIRONMENTAL DECISION-MAKING PRACTICE

The analysis of the climate change and environmental policies at multiple scales indicates that the role of governments was highlighted by the United Nation's Agenda 21 to develop and implement environmental policies and address issues concerning biodiversity, water, land, and so on. The analysis of environmental decision-making practices at an international scale and also at the different level of governments in Australia shows that there is a degree of fragmentation in policy approaches. Interestingly, the environmental policy approaches by the Lake Macquarie City Council shows that the decision-making practice can combine environmental and climate change issues simultaneously. There are practical, policy and ideological reasons for local government to operate differently to other levels of government. Clearly, the analysis suggests that there is a 'lost opportunity' – the failure of governments at higher levels to make and implement both environment and climate change decisions in parallel. Lessons from local governments are useful to scale up if climate change issues are effectively addressed because ultimately, environmental problems and solutions to these problems are felt directly at the local level. To this end, there is a need for major re-thinking about the ways that environmental decision-making practice is institutionalized at higher levels of government if we aim to provide effective solutions to climate change and environmental problems.

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