

CRITIQUE OF THE LOCAL ADAPTATION PATHWAYS PROGRAM AND THE RELATED RISK MANAGEMENT APPROACH TO CLIMATE CHANGE WHICH IS TAKEN BY THE AUSTRALIAN GREENHOUSE OFFICE

OVERVIEW AND RECOMMENDATIONS ON RISK MANAGEMENT

This submission primarily comments on the Local Adaptation Pathways Program and the related risk management approach to climate change, described by the Australian Greenhouse Office (AGO) in the Department of Environment and Water Resources. However, it is also made to the Climate Change Group in the Department of Prime Minister and Cabinet (PM&C). The investigation has strengthened my support for the policy direction outlined in their paper entitled 'Abatement Incentives Prior to the Commencement of the Australian Emissions Trading Scheme'. I also recommend open and comparative study of risk management education to assist development of greenhouse gas and energy reporting regulation and trading. This is partly necessary because I question the AGO approach to risk management, including for climate change.

I regard the Local Adaptation Pathways Program and the apparently related AGO process of education about climate change impact and risk management as problematic for many reasons. In general, I think the primary focus of risk management should be on business improvement, not climate change, or nothing may ever get done. The AGO approach to risk management first requires that individual organizations describe and list how climate change scenarios impact on each of the key elements of their organization, and then determine how the business should best adapt to meet these problems. I think this approach to risk management puts the cart before the horse in a fashion which is also highly speculative and complex, but not sufficiently pro-active or business focused.

In my view, the organization should first determine how its production methods create risks related to climate change (or other environmental problems) and then determine how their practices could be sustainably changed to remove or reduce the risks identified. In the situation of organizations such as councils, whose work is highly regulatory and relates to improving a total community and environment rather than manufacturing products, a broader approach to reducing risks created by others in the environment as well as itself, is necessary. In the council case, consultation with many outside the organization, in order to identify, prioritize and treat the risks of climate change which arise from regional communities and their environments should come first, followed by discussion of how best to treat or control the risks which have been identified. The approaches I recommend are consistent with activities expected as a result of the passage of state occupational health and safety (OHS) acts on one hand, and with the requirements of health promotion on the other. Related information is attached.

In this paper I address the Local Adaptation Pathways Program and related AGO process of risk management in the light of the imminent introduction of the Abatement Incentives Program described by PM&C. As I understand this proposal, the government will provide an up front free allocation of permits (early action credits) to firms suffering a significantly larger than average loss of asset value as a result of the introduction of an

aggregate constraint on Australia's emissions. It is proposed that such credits are only provided for activities that represent abatement that has actually occurred, and which are additional, permanent, measurable, and verifiable. Action credits may be accompanied by the government provision of offset credits if abatement activities occur in sectors not covered by the scheme (e.g. agriculture and forestry emissions). All suitable projects established after 3rd June 07 are eligible to apply for early action and/or offset credits. The following discussion of risk management education and research also takes place in the context of continuing discussion of the National Greenhouse and Energy Reporting Bill (2007), prior to the introduction of an emissions trading scheme four years later.

Recommendations on Risk Management Education, Research and Funding

This submission mainly addresses the need for an open, research based approach to all further education related to reducing the risks of climate change, rather than merely 'adapting' to it, as required by the AGO. As a result of later analysis, I regard the process outlined in the booklet 'Climate Change Impacts and Risk Management: Guide for Business and Government', produced by the AGO to be inappropriately focused for the large majority of businesses, and possibly for all of them. For example, its aim, which is to 'assist Australian businesses and organizations to adapt to climate change' (p.8), should instead be 'to assist Australian organizations to reduce the risks of climate change by improving their production methods', in my opinion. ***I recommend that all people who wish to openly display their climate risk management and educational content be invited to do so, to assist research. (See attached discussions on risk management education and on website development to make Wollongong into an Eco-City.)***

As shown in the recent PM&C consultation in Sydney, the devil of the Abatement Incentives Program is in the detail. This could become a scientific and related financial nightmare if emissions measurement, audit requirements and risk management practices are not well understood, accepted and supported at peak industry levels, as well as at the level of the individual organization. ***I recommend that a general premium and industry based financial model, such as that broadly pioneered in health service provision, be investigated in the context of the continuing debate over the construction and implementation of risk management principles at the workplace and for trading.***

The writers of the Climate Change Impacts and Risk Management guide for business and government (the AGO risk management guide) state they use the Australian and New Zealand Standard for Risk Management (AS/NZS 4360:2004) to guide their recommended process. I taught students how to prevent or reduce risks of injury to workers, communities, consumers or environments, as outlined in an earlier version of the same standard (AS/NZS 4360: 1999). In the 1999 approach one first establishes the business or community context; then identifies, analyses, evaluates and treats the risks to the environment which arise from within it. However, the AGO risk management guide takes a different approach, which I discuss later. I am not prepared to buy the new standard to find out whether it has changed since 1999. Standards are expensive. ***I recommend all are made freely available on a website if they are expected to be used.***

DISCUSSION OF THE RISK MANAGEMENT EDUCATION CONTEXT

The Climate Change Adaptation Skills Grants Program and Risk Management

Frank Coluccio, of Hi-Tech Consulting in Wollongong, drew my attention to the 3rd December 2007 deadline for funding applications to be made to the Climate Change Adaptation Skills Small Grants Program funded by the AGO. For a project to be available for funding under the Climate Change Adaptation Skills Small Grants Program the applicant must be:

1. a local council, regional and/or shire council, grouping of councils, and/or coalition of these, OR
2. professional organizations, training organizations and tertiary education institutions or consortiums (sic.) of such bodies

In the first case, the program will provide local government grants of up to \$30,000 (GST exclusive) for conducting a risk management process and up to \$20,000 (GST exclusive) for developing adaptation action plans using an approved service provider. The AGO apparently has a long-standing partnership with the International Council for Local Environment Initiatives (ICLEI). In the second case, grants are available up to \$150,000 (GST exclusive) for research and education development for professional groups, such as architects, engineers, planners, landscape architects, national resource managers or other specified groups in a way which 'builds understanding and skills for adaptation to the impacts of climate change' or provides related benefits.

I obtained the AGO publications entitled 'Climate Change Adaptation Actions for Local Government' and 'Climate Change Impacts and Risk Management: A Guide for Business and Government' (AGO risk management guide) because I think any education for production or for related community regulation, including for any risk management to protect the environment, should ideally be consistent with already required processes for the protection of workers, clients and communities, unless another course of action appears more sensible. I read the AGO publications critically in this light. The publications also state that people teaching risk management should adopt the existing models in operation in any organization, as far as this appears to be reasonable.

The Climate Change Adaptation Skills Small Grants Program ideally should assist resolution of confusion over future emissions management requirements. However, it appears likely to add to it, because key aims and requirements outlined in the AGO risk management guide are misguided in my opinion, and will lead to further confusion, as discussed later. The recommended risk management method also seems impossible for all but the largest businesses to undertake. Is it expected that all organizations will eventually follow it? What is its status in relation to implementation of the National Greenhouse and Energy Reporting Bill (2007)? Will those giving out money under the small grants program want to see curriculum content for any education proposed? It

seems not, which is a pity. This is a vital opportunity for comparatively well informed, open, comparative, education and research to clarify the future, as I recommended earlier.

My Free Offer of a Risk Management Approach to Teaching

Neither Frank Coluccio nor I are eligible for funding under the above educational programs. However, I am happy to provide demonstration workshops or related training for anybody for free at any time. I taught a risk management approach for workplaces and for community health in the Faculty of Health Sciences at Sydney University for eleven years prior to retirement in 2007. In 1987 I set up the first risk management office to support the NSW OHS Act (1983) in the NSW Department of Industrial Relations. My advice also led to my establishment and management of the Preventions Programs Branch in the WorkCover Authority. The branch mainly provided industry and workplace communities with risk management education, plain English information and related support for implementation of the NSW OHS act and workers compensation act. This approach is easily adapted to protect community health and the natural environment.

Were I in business or government I would not undertake the risk management process recommended in the AGO risk management guide because its goals and practice appear wrong, too theoretically and numerically dominated, and thus likely to become part of a comparatively unclear, complex, narrow, and highly politicized intellectual debate, rather than a comparatively simple and useful business process, which also reduces emissions. The guide primarily requires a business to apply climate change scenarios to its organization as the basis for assessing risks to the business, to help it adapt. I think this approach is neither practical nor the main interest of business, which is better production.

An alternative approach to emissions management, consistent with the requirements of risk identification, prioritization and control in state OHS acts and in the Australian and New Zealand Standard on Risk Management (AS/NZS 4360:1999), is to investigate how an organization (including businesses, governments or those working in the voluntary sector) might improve their work through taking a risk management approach to hazards faced by the organization and by the air, water, land and biodiversity which is potentially harmed by its production sources, methods, products and related outcomes. I discuss some major differences of this risk management approach, compared with the AGO risk management guide later. I seek an opportunity to demonstrate my teaching product.

The way I taught health risk management at work and in communities for eleven years at Sydney University is not only consistent with the requirements of state OHS acts, but also with those of health promotion, as outlined in key publications such as 'Better Health Outcomes for Australians' (Commonwealth Department of Human Services and Health, 1994). The baseline data for health promotion is usually derived from hospital stays and death statistics, from which community health problems (heart and respiratory diseases, cancers, accidents, mental health problems such as suicide, etc.), are identified before setting goals, targets and strategies to reduce them throughout communities.

Supplemented by workers compensation claims, such health statistics currently make the main contribution to the Australian analysis of acute and chronic health problems in community and workplace settings, but their limitations are also recognized. There are further opportunities for better joined up government and management if a related approach is taken to environment protection, as I discuss later. This opportunity for consistent risk management development is also important in the light of the first principle of the United Nations Rio Declaration on Environment adopted in 1992, which is that human beings are at the centre of concern for sustainable development and are entitled to a healthy and productive life in harmony with nature. Risks to air and water quality, land and all related biodiversity are best dealt with in this context, in my view. Please let me demonstrate this process openly to anybody chosen by anyone.

The National Greenhouse Energy Reporting Bill (2007) and Emissions Trading

The National Greenhouse and Energy Reporting Bill (2007), is currently being discussed prior to the introduction of an emissions trading scheme four years later. This bill requires measurement and report of an organization's noxious emissions, to reduce them in accordance with lowered government greenhouse gas emissions targets. As I understand it, once the organization's initial pollution levels are estimated, and it is in possession of an appropriate number of 'permits to pollute' at a monetary value first set by government, the following options are open to the major producer of emissions:

1. Reduce plant emissions and sell a related number of permits
2. Maintain or increase plant emissions, but pay for offset (environmentally friendly types of production of equivalent value to unacceptable pollution levels)
3. Maintain or increase plant emissions but pay a fine to government for not reducing them
4. Maintain or increase plant emissions and purchase more permits in the marketplace to legitimate continuing, unacceptably high pollution.

I assume that risk management training will eventually take place in this future context. On reading the AGO risk management guide, I was reminded of a passage in one of my earlier submissions on the Senate committee of inquiry into the National Greenhouse and Energy Reporting Bill (2007) which I also sent to PM&C in relation to their paper entitled 'Abatement Incentives Prior to the Commencement of the Australian Emissions Trading Scheme'. I wrote:

'.....The National Greenhouse and Energy Reporting Bill (2007) is disturbing for many reasons. Perhaps the most notable of these is that it ignores state OHS acts which apply to 'workplaces'. The bill applies to 'facilities' instead. In my opinion, these varying, key definitions are mainly likely to provide multiple rich new legal fields to identify and treat the risks arising from work, at the expense of industry. This apparent problem is not noted in the report of the Senate Environment, Communications, Information Technology and Arts Committee. Senators and submission makers have concerns about the bill for other reasons, but all realize its importance. No doubt we will get to deal more deeply with all the related issues in the fullness of time.....'

In the interim, I have also commented on the Australian Law Reform Commission (ALRC) paper written for their review of Client Legal Privilege and Federal Investigatory Bodies. If the ALRC recommendations to extend client legal privilege are as wrong and costly as I believe they are, this will also have an adverse impact on future disputes over an organization's actions and related rewards and punishments generated as a result of the National Greenhouse and Energy Reporting Bill (2007) and any emissions trading system. I think the AGO is not designing the incentives and processes for risk management and emissions trading correctly in what is admittedly an extremely complex context. As a teacher, I welcome any related opportunity to discuss my competing theory and educational product further. See key problems of the AGO approach below.

WHAT IS WRONG WITH THE AGO APPROACH TO RISK

Clear Definitions and Aims are Necessary for Good Strategies and Evaluations

The Introduction of the AGO risk management guide states that its aim is to 'assist Australian businesses and organizations to adapt to climate change' (p.8). Business is a form of the broader concept of organization (like government or voluntary organizations), not a separate beast, as sometimes suggested by AGO terminology such as that above. An organization is defined as a form of social relationship which has historically been closed, in that it limits the admission of outsiders. It has an existence and order which is separate from its members and which is constructed and reconstructed to seek specific goals.

How is 'adaptation' defined? The word appears misleading. Do the writers really want Australians in business and government only to adapt to climate change; or do they want them also to prevent or reduce the man made effects of climate change; or both of the above? I think the goal of the Australian community is to prevent or reduce the man made effects of climate change, as well as to adapt to it. Getting one's goals clear is the first vital thing in any planning for later strategies and related budgets to achieve one's goals. What do governments and other communities want to do – merely adapt to climate change or also to prevent, and/or reduce the bad effects of greenhouse gases?

Definitions are vitally important for clear management and research. They are primarily found in dictionaries which, at the beginning of the European Enlightenment, presented a new, exciting logic of shared meaning and related classification which was also necessary for the development of the scientific approach. (Lawyers still monopolize an ancient, feudal, pre-scientific discourse which relies on 'interpretations' instead of definitions. Interpretations often include the word one essentially needs to clarify - but I digress.) Defining and using key organizational concepts logically and correctly (e.g. business; government; voluntary organization) are necessary to enable the practical development of any production, data gathering, quantification and related budgeting framework to assist industries, communities and governments to achieve their environmental goals.

Whether the measurement of the impact of any activity which is considered desirable can be as perfect as one might wish is another matter. As I have previously pointed out in

relation to community development programs – one cannot easily measure the impacts of love, neglect or hate within a social environment, but one can recognize the effects of the latter and try to prevent or reduce them, using a range of evidence to evaluate results. The same is probably true of the impact of greenhouse gases on the environment. This is one reason that I reject the AGO approach to risk management which expects that individual organizations will first estimate the potential effects of various climate change scenarios on the business units. This is extremely difficult to do and far removed from the central task of business improvement. Reduction of evaluations to numbers may also be highly problematic, although it always looks scientific. This is a continuing problem.

I note that the AGO risk management guide was developed through a series of case studies with four partner organizations, including a large private company, a public utility, a government agency and a local government, and that the recommendations in the guide are based largely on the experience gained through these case studies (p.9). One wonders why these particular organizations were chosen to take part in the development of the guide and what skills and related occupations were brought to the deliberating table by all those who took part in its development. This is not an idle question as I think the guide's authors, and presumably those who supported them, took an approach to risk management and to the organization which is divergent from the normal expectations of risk management and health promotion as discussed in the attached lecture on these topics. A consistent approach to environments is necessary.

A Better Way Forward for All Risk Identification and Treatment is Necessary

On page 19, the AGO risk management guide describes the risk management process as having the following steps, with which I agree:

1. Establish the context
2. Identify the risks
3. Analyse the risks
4. Evaluate the risks
5. Treat the risks

We agree that communication and consultation are also essential, especially throughout the establishment stages of the production process. Monitoring and review are also vital, especially during the procedural stage and after completion of the project. However, I would take the following, holistic risk management approach if I were the head of any organization, because it can provide practical solutions to business, social and environmental problems in a consistent manner which may also be pursued at various levels of complexity in any area of operation of any organization, or in any community. I first propose the following process:

Establish the context (including the key stakeholders, as well as other stakeholders)

1. Define the business, government or voluntary organization to be assessed through first clarifying its ideal mission or goals (economic, social and environmental).

The major environmentally related task of production, in my view, is to reduce the pollution and related degradation of the air, water and land, which is a result of organizational operation, and which also produces particular risks for biodiversity. If later effort shows such risk reduction is impossible, purchase of offsets should occur.

2. Ask what key production methods are used to achieve the stated organizational mission or goals. (Describe principle management and production methods, outputs, and outcomes of the organization in relation to its normal industrial and related occupational, community and environmental context.)
3. Identify the stakeholders of the organization and clearly separate the goals of key stakeholders (those for whom the business service is primarily established) from other stakeholders (such as service providers to the business).

In WorkCover for example, the main aim is to assist employers and workers, who are also the key stakeholders, to prevent and sustainably manage risk of injury to workers.

4. Investigate the availability of key baseline data within the organization in relation to all current risk management attempts to achieve the work goals and objectives. (An objective is a subset of a broader goal). For example, in regard to later focus on production related pollution of the air, the Senate inquiry into the National Greenhouse and Reporting Bill (2007) notes that there are 15 commonwealth, state and territory programs with greenhouse and energy reporting requirements. Examination and report on the current organizational context might assist government to clarify, harmonize and reduce such reporting requirements. This is a more practical and informed method of proceeding to rationalization than those in the Senate report or in the AGO risk management guide, in my opinion.

A similar risk management process may be conducted in any regional community by first describing it; then identifying the major risks to air, water, land and related biodiversity which arise within it, prior to evaluating and prioritizing these risks, in order to develop program and project aims and strategies to treat the risks and evaluate the outcomes later.

The AGO risk management guide refers to key stakeholders in passing, without recognizing their importance. In the WorkCover example above, if the key stakeholders are not clearly separated from other stakeholders such as lawyers, insurance companies and doctors, any further risk management developments may easily become biased towards the interests of the latter powerful groups, who are not the groups for whom the service is ideally established. They may then weigh the system down with unnecessary, unhelpful costs. I think the same is true for environmental matters. The stakeholder

concept is essentially a practical, economic and political approach for organizations to use to reduce risks to the business and its operational environment, in my opinion. But if its potential operational benefits are not well understood, one may end up with the same organizations seeking taxpayer subsidies from government to cover the costs of accountants, lawyers and other people who may respectively try to measure or hide what it is doing. The result of this may be conservative but costly management that focuses wrongly on measuring problems, not dealing with them. I fear the AGO approach.

The points under the heading 'Establishing the context', in the AGO risk management guide are different but mainly additional to my approach above. They also focus on:

- establishing success criteria against which risks in the organization's objectives can be evaluated;
- and determining the relevant climate change scenarios for the assessment.

In my view, one cannot logically do the above until the risks of organizational production upon the environment have been identified. The first task is not part of establishing the organizational context. It relates to identifying and treating its risks. I have no idea why the vast majority of Australian employers should be engaged in 'determining the relevant climate change scenarios for the assessment', let alone as part of establishing their context of production, prior to a risk assessment. This is very complex. For example, I cannot understand the graphs entitled Projected Changes in Australian Temperature and Projected Changes in Australian Rainfall on pages 4 and 5 respectively of 'Climate Change Adaptation Actions for Local Government', and neither can my daughter, who is undertaking a post-graduate thesis on climate change, involving climate modelling. I cannot see how the processes underlying the graphs, (Pittock 2003), can be implemented or made relevant at the micro-level of the individual business unit other than through a premium (permit) price which must first established at the industry group level.

Determining relevant climate change scenarios is ideally a different job from the undertaking of organizational risk management, in my opinion. The former job seems best undertaken by academics or others working for government in the broader business of estimating targets related to required emissions reduction. It is very difficult to do the job of predicting the effects of climate change scenarios effectively, even when one has access to aggregated data. But such activity is largely irrelevant to effective control of the individual employer's emissions, upon which I think the work focus should be placed.

Predicting climate change scenarios thus seems to me a job largely for scientific experts, based on the emissions data provided by individual employers as a result of requirements under the National Greenhouse and Energy Reporting Bill (2007). I think the use of workers compensation data to set industry premiums and to guide employers about their likely risks and how to control them is a more appropriate data model for climate risk management at the level of industry and the individual firm. Nobody is employed in predicting future injuries to workers under this model, as far as I'm aware. Why do it? – especially if the difficulty of doing so reduces the general attention given to making the workplace safer and reducing costs in a practical fashion, which is what I recommend.

Thus I regard the headings under 'Establish the context' for climate change, in the AGO risk management guide to be conceptually flawed. This is not the approach which is taken to reducing the risk of injury to workers under the NSW WorkCover scheme, or in broader Australian health promotion efforts. Does the AGO wish to see every shop and garage determining relevant climate change scenarios to relate to their risk management process in future, or will they be expected to do something different? Consistent approaches are usually less confusing, which is what both the AGO and I recommend.

Identify the risks by:

Under the above heading, the AGO risk management guide recommends

- 'describing and listing how climate changes impact on each of the key elements of the organization.' (p. 19)

Is this really possible or a good idea? I think not. I recommend the opposite below:

- Describing and listing how the activities of the organisation affect climate change

Earlier description of the organizational context is very important for helping with the task of identifying what risks to the air might occur as a result of production. In my view, the Hazpak worksheet which may be used to assist people at the workplace primarily to identify the risks of injury to workers, could easily be amended as a prompt to assist people at the workplace to identify the risks of injury to the environment, as a result of the production processes they have previously described. Hazpak was produced by NSW WorkCover and was originally designed by Jean Cross, a professor of safety engineering at the University of NSW, if my memory serves me correctly. I have also adapted her schematic approach to help students identify and treat risks to health in any community.

Analysing, evaluating, prioritizing the risks identified

In the AGO risk management guide the analysis of risks required is different from the kind undertaken under the OHS act. A lot of management information which I listed above as part of establishing the risk management context, is instead recommended by the AGO as best sought during the stage of analysing the risks. I think this might lead to a lesser understanding of the organization than would otherwise be the case, and also to fewer risks being identified. I also think the next three requirements would be difficult to implement without much clearer yet simpler guidance and I fail to see the usefulness of the third, as I indicated earlier:

- Assessing the consequences of each risk against the organization's objectives and success criteria, taking into account the extent and effectiveness of the existing controls.
- Forming a judgment about the likelihood of each identified risk leading to the consequences identified; and

- Determining the level of risk to the organization for each of the climate change scenarios used in the analysis.

In the WorkCover Hazpak worksheet supporting the OHS act, students are asked to evaluate and prioritize risks mainly as a result of the information they have gained at the first point of establishing the organizational context for the risk management. This is supplemented by further discussions with those people most familiar with any risks listed at the workplace and/or those who have expertise about how they might be treated.

Research information about other workplaces dealing with similar risks, national standards, guidance notes, material safety data sheets (MSDS) and all related research data are also very useful to aid enterprise understanding. For example, many production processes use chemicals which may threaten worker safety or community safety, but also have impacts upon the environment. Students concerned about the latter would research the chemical used in production and decide how best to reduce its effects. However, the process of prioritizing risks for later treatment is guided, in the Hazpak worksheet, by a table of sixteen boxes which allows any risk to be categorized according to the likelihood of its severity and frequency. A severe risk (e.g. chemical explosion) is one in which death may be caused. A frequent risk is more likely to lead to chronic health or pollution problems. For example, a huge plume of chemical smoke coming from a chimney for eight hours per day is likely to be unhealthy even if it does not kill any life immediately. This is a clear and comparatively simple approach to prioritizing risks. It does not involve great mathematical skill which nevertheless may produce meaningless numbers.

The Hazpak worksheet also suggests thinking about four ways in which identified risks might possibly be treated in future. People are encouraged to think and learn about whether it is possible to eliminate a hazard through an engineering solution at its source. Chemical fumes may be dealt with in this fashion. Alternatively, one might want to substitute a less dangerous chemical in place of a more dangerous one used in production, as long as this did not unduly threaten other aspects of the business. People are also asked to think about isolating a hazard of production in such a way that it has a reduced potential impact on its environment. Consideration of changing work methods so that a particular hazard is reduced are also suggested. Personal protective equipment is seen as the last resort. After reading the AGO risk management guide, I think that people would end up very confused in comparison with the above simple process. For example, how are the success scales for a local authority to be used? (pp.35-37).

Treat risks

The process of the AGO risk management guide for treating risks suggests:

1. Identifying relevant options to manage or adapt to the risks (of the impact of climate change on the business) and their consequences
2. Selecting the best options, incorporating these into forward plans and implementing them

Besides putting the cart before the horse through its earlier focus on climate change rather than business improvement, the treatment of risks in the AGO approach appears extremely cursory. In comparison, in the overall process I teach, the risk treatment process is perhaps the largest part of the total, five stage risk management exercise I outlined at the beginning. For their assessments, which are essentially risk management treatment funding proposals resulting from their earlier investigations, students meet the following guided requests - to highly varying levels of sophistication and ability:

1. Describe the organization, the work it undertakes and its related risk management systems, including any relevant base line data supporting risk management
2. List, analyse and prioritize the major hazards involved in production as they relate to air pollution (ideally also water or land or related biodiversity)
3. Describe the aims and objectives of the proposed risk treatment program, also establishing targets where it is realistic to do so
4. Describe the strategies which are proposed to achieve the overall aim and the related objectives (Also outline any milestones related to their implementation)
5. Describe the performance indicators which will be used to evaluate the outcome of the risk management strategies (e.g. expected decline in level of emissions)
6. Estimate the cost of the risk management program to the organization (e.g. the cost of all the labour time and materials necessary for the entire process supporting risk identification, evaluation and/or risk treatment).

The above approach may be easily adapted to the identification of risks to the health of particular communities and their broader natural environments. The latter concern appears to be the AGO focus of attention in its companion publication 'Climate Change: Adaptation Actions for Local Government', which I do not discuss directly in this paper.

Communication, consultation, monitoring and review

In my view, people with differing skills often work best together. Some people have excellent technical knowledge and skills but comparatively poor conceptual and writing ability while others have the reverse problem. In my view, work is most productive when people are placed in a position to complement each others' capacities in order to contribute best to the overall results, including through questioning, debate and correction of each other, to achieve the common goal. In my opinion, the AGO risk management guide's approach is not only wrong but also extremely confusing and this is likely to end in tying the organization's designated experts in numerical knots, while neglecting other people in the organization who may have greater interest and knowledge regarding how the business might deal with climate change most effectively, either through reducing its own workplace risks or by purchasing offset activities in the broader community.

Like the Greiner government, for which I helped write regulatory impact statements on new OHS regulations in construction, for plant and for chemicals, I do not believe that cost-benefit analysis can effectively be reduced to a purely quantitative economic activity as is suggested in the range of purely quantitative techniques for assessing risk treatment options according to the AGO risk management guide (p.20). Please also note that in

regard to the PM&C paper entitled 'Abatement Incentives Prior to the Commencement of the Australian Emissions Trading Scheme', I still have a range of measurement concerns related to Appendices A and B, which deal respectively with the national electricity market and with Greenhouse Friendly Offset standards. I am trying to become more informed about these issues to provide further feedback later on. God help us all.

In my view, the answer to the emissions problem which contributes to global warming, is not for government to subsidise businesses for the cost of accountants, lawyers and others grappling with measurement, verification and treatment of emissions, after the latter determine some relevant future climate change scenarios as part of future risk assessments. I think preparations for measurement related cost shifting through this approach will only hurt Australian service provision and competitiveness in the long run.

MAKE WOLLONGONG THE FIRST ECO-CITY

The Wollongong City Council currently seeks feedback on the Blue Mile Vision and Masterplan 'to maximise Wollongong's advantages as a city by the sea'. The planning objectives do not address environment protection or ecological sustainability and the Council's Environment Fund website does not discuss air quality or climate change. In the light of current regional and national interests discussed later, this is short-sighted. A better coordinated range of projects is recommended for continuing community development, research and related joint venture funding, in the light of the emissions abatement incentives now being offered by Australian government prior to commencement of the Australian Emissions Trading Scheme, planned to commence in 2011. The Climate Change Group of the Department of Prime Minister and Cabinet is offering the emissions abatement incentives. It is also assisting discussion and implementing of the National Greenhouse and Energy Reporting Bill (2007). The primary aim of the incentives is to gain greater sustainability in production through offering support for effective reduction of greenhouse gas emissions, as well as their measurement and verification. A related aim is to encourage carbon neutrality through trading and investment which assists reduction of harm to environments. Wollongong is ready for broadly agreed development and research projects. Now is the chance for Wollongong to lead ecologically sustainable development in Australia. All relevant NSW and Commonwealth funding for environment protection should be considered in this coordinated, regional planning context for better competitive outcomes.

This is the first draft of a living document for general consideration in relation to sustainable project development and joint venture funding, prepared by Carol O'Donnell with the assistance of Frank Coluccio of Hi-Tech Consulting in Wollongong. O'Donnell was formerly a policy adviser working in NSW government, who then spent 11 years as a lecturer at Sydney University before retiring in March 2007.

(October 2007)

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1. CLIMATE CHANGE IN INTERNATIONAL AND AUSTRALIAN CONTEXT

The United Nations (UN) Declaration on Environment and the Australian direction

The first principle of the UN Declaration on Environment adopted in Rio in 1992 is that human beings are at the centre of concern for sustainable development and are entitled to a healthy and productive life in harmony with nature. Australia signed the Declaration. At the 1994 Asia Pacific Economic Cooperation (APEC) summit, national leaders then agreed to create an Asia-Pacific free trade zone by 2020, and supported protection of health, the natural environment and more transparency. In 2001 the Minister for the Environment and Heritage launched the Australia State of the Environment Report which concluded that Australia is far from achieving sustainability and major problems remain. The report identified a range of challenges related to degradation of land and water and to loss of biodiversity and national heritage. In 2002, the Wentworth Group of Concerned Scientists, convened by the World Wide Fund (WWF) Australia, following this general direction in its 'Blueprint for a Living Continent'. There were other relevant initiatives.

Global warming and calls for global emissions measurement and reduction

Australian community debate and related regulatory concern have recently been mounting in regard to the causes, effects and measurement of global warming on air, water, land and biodiversity. Scientific inquiry has strongly suggested that global warming and its effects on life are caused primarily by noxious emissions being put into the atmosphere as a by-product of current production and consumption systems. In 1992 the UN Framework Convention on Climate Change (the Kyoto Protocol) called upon governments to reduce emissions through the combination of regulated emissions reduction targets and related, open market, trading systems. The Protocol was ratified by 55 countries, but not by the US or Australia. It primarily discusses the relationship of countries to each other in managing emissions downwards and reporting on the results. It does not explain how a market system is best established to assist the process effectively. Australia is now also discussing related emissions measurement and verification issues.

In 2006, WWF Australia suggested many activities to reduce Australian greenhouse gas emissions by a third by 2030 in a document entitled 'A Prosperous Low Carbon Future'. In 2006 Macquarie University organized a talk entitled 'Removing Market Distortions to Promote Sustainable Development' by the former OECD economist, Philippe Barde. He stated that, from his European perspective, the only sensible use of government funding to support sustainable development was:

- Funding to promote more environmentally friendly production
- Funding to assist people out of polluting industries

Such protective activities by government have a long history. A major question now is how government expectations may best be married to the traditional trading systems in order to reduce global emissions better, through the market players' money-making goal.

Recent Australian initiatives to reduce emissions through their regulation and measurement, supported by related trading and research

In July 2007, the Commonwealth Government released 'Australia's Climate Change Policy: Our economy, our environment, our future'. This endorsed the need for an emissions trading scheme, as set out in the report of the Prime Ministerial Task Force on Emissions Trading. The Government indicated that it is aiming for the emissions trading scheme to commence in 2011 and that it is committed to ensuring that incentives for abatement are maintained in the period leading up to the scheme commencement. The Government is also committed to consulting extensively on the design of the emissions trading scheme over the coming year. The establishment of a market that works effectively to reduce emissions is not easy to design, as the Total Environment Centre and others have made clear in the references outlined at the end of this submission.

The Climate Change Group of the Dept. of Prime Minister and Cabinet is currently assisting discussion on the National Greenhouse and Energy Reporting Bill (2007). This lays the foundation for the Australian Emissions Trading System to commence in 2011 by requiring major emitters of greenhouse gases to measure and report to government on their emissions, prior to reducing them, as required by law. In the meantime, however, there are opportunities for voluntary involvement in existing emissions trading markets which allow people to invest in technologies and related practices which may also reduce greenhouse gases. In the mature, government supported market of the future, it is assumed that polluters will first measure their greenhouse gas emissions and report to government on their level. Government will then issue the polluter with a number of permits, representing their level of emissions above the baseline of government allowed emissions. The government will reduce the level of allowable emissions over time and the relevant organization is also expected to reduce its emissions accordingly. This is ideally done by reducing its emissions at source, or by 'offsetting' its emissions through investing in technologies which reduce greenhouse gases emitted by others, elsewhere.

There are currently many uncertainties about how organisations ideally should measure their emissions and how the report of their level of emissions to government should be checked. This in turn leads to uncertainties about how the government provision of 'permits to pollute', would lead to an organization investing them in the market in a way which effectively brings about genuine emissions reduction in areas of production other than their own establishment. Such problems are discussed in the Total Environment Centre books entitled 'Neutral and Beyond: A Review of Carbon Neutrality and Offsets' (2007) and 'Carbon Neutral Watch – Corporates, Consultants and Credibility' (2007).

The word 'carbon neutral' is sometimes used to describe a company that has supposedly reduced its emissions to zero, either by improving its own energy efficiency and buying green power, but also by purchasing 'offsets' to compensate for its remaining emissions. As the Total Environment Centre points out, the challenge in Australia for companies, analysts, and shareholders is to ensure that there is a common understanding of what it means to be 'carbon neutral' and also to gain agreed standards for each of the elements

involved in achieving that status. However, the fact that effective measurement is often difficult should not stop us trying to learn more and act sensibly. Otherwise environmental problems will only get worse. (We cannot measure love, neglect or hatred either, but we broadly understand the effects of the latter and try to reduce them.)

Developing risk management perspective to protect communities and environments

In this context, continuing experiment and all related research is vital. The Climate Change Group in the Department of Prime Minister and Cabinet has produced a paper recently, entitled 'Abatement incentives prior to the commencement of the Australian Emissions Trading Scheme' (2007). The Total Environment Centre recommended that organizations first try to reduce their total emissions at their sources, through elimination or substitution methods, and by using related engineering or other technological and administration strategies. If this is not fully possible, the purchase of 'offsets', which are aimed at reducing environmental problems in other areas of living is recommended.

The Total Environment Centre and the Government Climate Change Group appear to be taking a coordinated risk management perspective, of the kind which was first introduced as a requirement for employers and workers during the 1980s, when state occupational health and safety (OHS) acts were passed. Australian businesses were thereby encouraged to think about assessing and prioritizing organizational hazards and establishing related risk controls, to protect workers, communities and environments. A related international risk management approach appeared to be taken by representatives of the Munich Re Group, at a recent sustainability research event at Sydney University. More broadly coordinated risk management perspectives have been described in an article by O'Donnell entitled 'A healthier approach to justice and environment development in Australian communities and beyond', in *Public Administration Today*, (Oct.-Dec.2006), the journal of the Institute of Public Administration of Australia (IPAA). 'From the Constitutional past to the new educational ideal', is in a later issue.

Communities as well as organizations may take a risk management perspective, which aims at promoting healthy environments by identifying and prioritizing the risks of production and consumption systems, before trying to reduce them. Early opportunities for development, related research and education are now afforded by the Department of Prime Minister and Cabinet through their introduction of emission abatement incentives prior to introduction of the Australian Emissions Trading Scheme. It is later argued that Wollongong presents itself as a working community which is ideal for developing and testing all the concepts necessary for becoming an ideal Eco-City. In the above context, this may also be primarily defined in terms of the passage towards carbon neutrality.

Key requirements of the National Greenhouse and Energy Reporting Bill (2007)

The National Greenhouse and Energy Reporting bill mainly requires measurement and report of an organization's noxious emissions, to reduce them. This is the necessary precursor to development of a more effective emissions trading scheme. It seems

reasonable to take a coordinated organizational approach to measuring other pollution, in order to reduce it, as well as to other measures necessary to reduce risk to biodiversity.

The National Greenhouse and Energy Reporting bill is currently generating much community debate, as noted in the report of the Senate Environment, Communications, Information Technology and Arts Committee (2007). However, most Australian communities now appear to realize the importance of hastening sustainable development activity. This action can also assist development of the most effective legislative direction. Accordingly, the paper on 'Abatement incentives prior to the commencement of the Australian Emissions Trading Scheme', produced by the Climate Change Group of the Department of Prime Minister and Cabinet, proposes development of streamlined protocols for early action and 'offset projects' aimed at reducing the causes and effects of global warming. Stakeholder feedback is also sought on priority project activities for protocol development. This submission has been developed in response to that request.

Requirements of the Emissions Abatement Incentives Program

Under the Emissions Abatement Incentives Program, the Commonwealth government will provide an up front free allocation of permits (early action credits) to firms suffering a significantly larger than average loss of asset value as a result of the introduction of an aggregate constraint on Australia's emissions. Government proposes that such credits are only provided for activities that represent abatement that has actually occurred, and which are additional to normal production methods, as well as being permanent, measurable, and verifiable. Action credits may be accompanied by the government provision of offset credits if abatement activities are in sectors not covered by the scheme (e.g. agriculture or forestry emissions).

All suitable projects established after 3rd June 07 are eligible to apply for early action and/or offset credits. It is also proposed that the Australian Government's Greenhouse Friendly program will provide the initial administrative mechanism for approving early action credits and offset credits for use in an emissions trading scheme. The Government does not propose any quantitative limits on early action credits.

As Gavin Brown, Vice Chancellor of Sydney University has noted, co-investment is the key to future development (Sydney Morning Herald 24.9.07, p.15). Rick Turchini, the Managing Director of Baulderstone Hornibrook, said on the same day:

'Creating alliances is another way forward, as teams from the public and private sector come together, develop shared objectives and work towards a common goal. This can reduce conflict, as well as developing a way of sharing risk appropriately.' (Australian Financial Review, 24.9.07, p.71)

This is the approach we also support through project proposals in this submission. It is also likely to be supported by government and Lend Lease, as discussed later.

Greenhouse reporting and relevant recommendations about NSW electricity supply

It is estimated that around 35% of Australia's total green house gas emissions are produced in the generation of electricity that is consumed by various end users (WWF 2006). According to the report of the Inquiry into Electricity Supply in NSW (Owen Report, 2007) the national electricity market (NEM) was established in 1998 to provide a more broadly competitive market for the supply of electricity to most Australian states. In comparison with other states in the NEM, private sector investment in the electricity sector in NSW is minimal. The effects of a range of NSW Government measures for mitigating environmental degradation and climate change appear to have produced enhanced levels of energy efficiency in the state. For the next decade, growth in electricity requirement is projected to average 1.8% per annum, compared with 2.5% over the past decade (Owen, 2007).

The NSW Greenhouse Gas Reduction Scheme was a forerunner of the proposed national emissions trading scheme and one of the first mandatory emissions trading schemes in the world. The Owen report states this has been a major factor encouraging combined cycle gas turbine (CCGT) plants and other less polluting energy sources into production. Owen stresses the future uncertainty surrounding the electricity industry because of the need to achieve the governments' energy and climate change policy objectives, and sees this as an opportunity for progressive change. He recommends that government privatize the currently separated electricity generation and retail businesses, thus allowing companies to own both aspects of the energy production and distribution process, which would allow them to adopt most cost-efficient outcomes. He encourages the government to maximize the range of competing potential investors, quarantine risk and bring forward the timetable for establishing a national emissions trading scheme. All this does not mean selling the grid, which are the 'poles and wires' of the state's transmission and distribution networks. Owen argues that this privatization process also provides a vital opportunity to support many new and cleaner energy sources, based primarily on cleaner coal or gas production but also on non-renewable energy generation sources such as wind and biomass. The Premier has ruled out nuclear technologies in NSW (Owen, 2007).

National opportunities to pioneer sustainable development in housing

The National Affordable Housing Summit recently noted that housing is becoming increasingly unaffordable and decided that the Commonwealth should allocate at least \$200 million per annum towards to the development of a national Capital Grants program and Affordable Rental Incentive Scheme, rising to a total of at least \$500 million per annum in the fifth year. Commonwealth funding is available for a Residential Infrastructure Fund to support the building program with \$250 million available in the first year, to grow to \$500 per annum by the fifth year (www.housingsummit.org.au). It is currently estimated that Australian households account for around 20% of Australia's greenhouse gas emission (WWF 2006, p.11). The proposals of the National Affordable Housing Summit present an opportunity to ensure that consideration is given during

planning and construction to reduction at the source of household emissions related to transport (31%); refrigerators/other appliances (25%); space heating, water heating, standby power, lighting and waste, which make up the household emissions burden.

David Hutton, the CEO of Lend Lease Retail and Communities APAC, wrote to the Treasurer (28.9.07) stating that his organization believes that affordable housing and sustainable communities can be best delivered in large scale projects and that this will result in the most integrated outcomes and most efficient use of any government subsidy. (He noted that Lend Lease is the major supplier in the privatization of US military housing, controlling 44,000 homes across the US.) Lend Lease calls for clear identification of broadly expected project outcomes and a related clearer identification of major project risks and accountabilities. At a recent Shelter Conference, NSW politician, Ms Angela D'Amore, indicated that government ministers or the Premier will now accept and deliberate upon serious housing proposals from any quarter at any time. This presents an excellent opportunity for related housing and sustainable development plans in Wollongong or elsewhere. We may now look forward to Shelter's conference entitled 'Climate Change: How Will It Involve Low-income Households'? on 15/11/06.

Opportunities for government, industry superannuation fund and other investment

It seems clear that government, industry superannuation funds and others should now consider investing in Australian housing and sustainable development, if only to avoid the major risks which may go with investing in international markets which are often opaque, and driven by a comparative few who have more power and knowledge to assist pursuit of their own interests, than most Australians can ever have. I recommend the Shelter website discussion by Robert Mobray and Nicholas Warren entitled 'Shared Equity Home Ownership: Welfare and Consumer Protection Issues' (2007).

In regard to discussion of trading and investment it should be understood that pursuit of sustainable development normally requires a more open paradigm compared with that normally applied in markets. The general desirability of the individual pursuit of economic self-interest is the paramount assumption of the market paradigm, enshrined in common law principles which guarantee client legal privilege, and in legislation such as the Trade Practices Act. The key assumption is that the secretive pursuit of economic self-interest is also in the common interest. But this often increases the risks and costs borne by all beyond a protected circle of financial managers, business lawyers, their families and friends. The disgruntled must normally take barristers to court. The truth is of secondary interest in this legal framework. The court knows no risk, only expensive expansion, driven by regulation paid for by the public. In a global economy ruled by common law and legal privilege, such feudal dysfunction seems likely to get more costly.

In this investment context it is also worth remembering the recent failures of the US 'sub-prime' mortgage markets and the impact on 'low-doc' loans in Australia, as well as what happened to HIH and Enron. Enron had roles as an energy trading entity and roles as an energy producer and distributor in partnerships with industry and governments. It was supported by banks, pension funds and many others in charge of investing other peoples'

money. Enron did everything it could to give an increasing appearance of profitability, to encourage investment in its total activities. However, it took comparatively little or no interest in the actual quality of its energy production and distribution activities because to do so would have harmed its further trading activities, paper profits and share price. Enron did many deals and those doing them became incredibly rich. The people consuming energy and investing in Enron were massive losers when many promised deliveries were not made, and the company crashed. Don't let that happen here.

2. WHY A SUSTAINABLE DEVELOPMENT EMPHASIS ON WOLLONGONG?

A major survey undertaken by the Department of Environment and Conservation NSW (2006) indicated that people contacted thought the two most important environmental issues in NSW today are water supply/conservation management/drought and air pollution/air quality. The third area of major concern was forest/bushland/biodiversity issues. According to the survey, 96% of people in NSW believe that the aim of environmental regulation should be to improve rather than merely maintain the health of the environment and 68% disagree with the proposition that environmental regulation is restricting or holding back the NSW economy. Wollongong is considered in a broadly supportive NSW context, where change to improve the environment also appears vital for improving Australian business competitiveness nationally and internationally.

Wollongong's major employers are major greenhouse gas emitters

Major employers located in Wollongong emit a large amount of greenhouse gas and so will be affected by the new legislation on emissions measurement prior to trading. The WWF's proposal to reduce Australian greenhouse gas emissions by a third by 2030 states that Australia's primary metals industries are large and energy intensive with only a few dozen facilities being responsible for 15% of Australia's greenhouse gas emissions. Australia's other industries, including mining and manufacturing are responsible for around 25% of national greenhouse gas emissions (WWF, 2006). This suggests that some of Wollongong's largest employers, such as BHP Billiton and Bluescope Steel, will be strongly affected by the requirements of future legislation related to the measurement and control of emissions. This proposal, which is put under the Early Abatement Incentives program, is therefore also addressed to them and others in related positions.

The report of the Australian House of Representatives Standing Committee on Economics, Finance and Public Administration entitled 'Australian Manufacturing: Today and Tomorrow' (July 07) was commissioned by the Treasurer. It states that in May 2007 the Prime Minister promised \$351.8 million over the next ten years to establish Australian Industry Productivity Centres to provide 'a range of general and specialist services'. They will 'provide a free diagnostic service to help businesses assess their performance against world best practice and identify opportunities for improvement' (2007, p.205). Bluescope Steel's submission to this manufacturing inquiry pointed out that one of its key priorities is 'ensuring greenhouse gas regulations do not make Australia's steel industry uncompetitive' (p.2). Bluescope noted that China is the world's largest producer and consumer of steel and therefore a major polluter, as well as

Australia's leading trade partner. In this context, the National Greenhouse and Energy Reporting Bill may be regarded as a threat or an opportunity. We regard it as the latter, if only because the sustainable development direction is globally unavoidable and countries that do not see this will be left behind or universally blamed.

The Illawarra has many mutually supportive stakeholders in manufacturing

The Illawarra Mercury (25.4.07, p.9) reported that stakeholders in the Illawarra's manufacturing sector, including representatives of business groups, manufacturing firms, union officials and politicians came together recently to explore their common ground, especially in relation to infrastructure needs and skills development, in order to put a united front to government to secure employment and development for the region's future. Senator Kim Carr and Australian Council of Trade Unions (ACTU) President, Sharan Burrow, are reported as addressing the meeting and arguing that 'sunrise industries', such as solar, thermal and geothermal energy, should co-exist with those that have sustained the Illawarra for generations. They argued traditional industries could be redefined by cutting edge technologies developed in the region and exported nationally and that jobs would also be created through the perfect symmetry between business, university and the other stakeholders in the region. As Kim Carr pointed out, 'This isn't about people doing the jobs their fathers did and nothing ever changing'. But as Sharan Burrow said, 'There's no question that jobs can be created here as part of the response to climate change'. These two things must go together, with appropriate learning for all.

One hopes that BHP Billiton, Bluescope Steel and other large employers will take the opportunities now offered through the emissions abatement scheme to work with interested communities in Wollongong and the Illawarra generally. The Prime Minister recognised the importance of emissions reduction when key business leaders were invited to join the Task Force on Emissions Trading. The Group includes Chris Lynch, the Executive Director of BHP Billiton. Perhaps he or his nominee might act as a Business Angel to suitable projects. The ACTU submission to the inquiry into manufacturing stressed the importance of Australian industry progressing 'up the value chain'. The National Greenhouse and Energy Reporting Bill and the early Abatement Incentives Program may be constructed as vehicles. Support is proposed for the project directions below, for continuing development with stakeholders.

Illawarra Community and Wollongong Council support sustainable development

Wollongong and its surrounding communities have a major interest in planning for sustainable development. This has been demonstrated in many initiatives which have begun previously, and which are discussed later in this submission. The level of interest was most graphically demonstrated by a photo in the Mercury News (22.5.06, p.7) which shows more than 2000 Far South Coast residents making their feelings on climate change abundantly clear by making themselves into a human banner on the sands of Tathra Beach to spell the words 'Imagine Clean Energy for Eternity'. The organiser of the event was Bega orthopaedic surgeon Mathew Nott, supported by citizens from all parts of the Bega Valley Shire. The Clean Energy Action Plan for Bega Valley Shire is vital reading.

The Wollongong Climate Action Network is a related community group which currently meets on a monthly basis. It aims to exert political influence on all levels of government to take action on climate change and to encourage others to do so individually and collectively. The Network also seeks to put climate change on business and other community group agendas. Most recently it organized Cool Day Out at Smiths Hill High School, with the support of I98 FM radio, Wollongong City Council, Bunnings Warehouse, the Department of Environment and Water Resources and the Australian Greenhouse Office. Solar power, recycling, gardening, water tanks, gas conversion, energy efficiency, electric bicycles, architectural advice, ethical investment and test driving hybrid cars were all on the agenda during this very successful day.

Many Wollongong residents and businesses, like Frank Coluccio and Fady Sidrak of Hi-Tech Consulting, have advocated for years for Wollongong to become Australia's first Eco-City. In a recent interview with the Illawarra Mercury (8.12.06) Coluccio pointed out the potential for links between Wollongong and the Chinese city of Dongtan, which plans to become an Eco-City, with environmentally friendly transport and many other features. If Wollongong followed China's lead and generated more eco-friendly industries it would become a model for more cities to follow. Related plans proposed by Hi-Tech Consulting and the Climate Action Network need to be addressed, along with potential research and education support through the Wollongong Innovation Campus and the new Technical and Further Education (TAFE) Graduate Certificate in Ecologically Sustainable Development. This was developed for the Manufacturing and Engineering Process Industries in Wollongong, but has not yet been introduced.

In 2002 a broad strategic planning initiative entitled Wollongong Futures was undertaken for the City of Wollongong, along with a review of the city's statutory planning tool, the Local Environment Plan. The goal of Wollongong Futures was to establish a vision based on the principles of sustainability and inclusiveness to take Wollongong into the future. The community values survey conducted for the planning exercise by IRIS Research showed that environmental protection and control was rated as the highest community priority of the twelve listed categories of community interest. The most common responses were:

'The need to clean up beaches, creeks and waterways; improve Lake Illawarra, protect escarpment, natural environment, reduce pollution and improve waste management.'

(Main priority areas for resource allocation. Summary of Main Responses Wollongong Futures Community Values Survey, IRIS Research, June 02, p. 36)

The Regional Economic Overview prepared by Leyshon Consulting for the Wollongong Futures inquiry clearly showed the changing nature of the surrounding community and the need to be prepared for its future requirements. The report demonstrated that manufacturing related employment in the region had halved between 1981 and 1996 while employment in finance and property had more than doubled over the same period.

Wollongong City Council has now developed 'The Blue Mile' Foreshore Master Plan and is seeking comment on it up until 15th October 2007. It is hoped that this submission will also be considered in this primary development context.

Indigenous communities have strong interest in South Coast development concerns

There appears to be potential for aquaculture and fishing related investment, research, education and development in the Illawarra and South Coast which closely involves indigenous communities. The Standing Committee on State Development of the NSW Legislative Council produced a Report on Fisheries Management and Resource Allocation in NSW in 1997 which noted government had received thousands of submissions in response to the call for nominations for recreational fishing areas. The State's coastal areas were divided into eight regions with a record 880 nominations received for region 7 (the area South of Wollongong to Narooma). In the Hansard of 11.4.2001 the Minister for Fisheries indicated that between 1998 and 1999 the NSW Government held 17 regional fisheries workshops with Aboriginal communities to develop an indigenous fisheries strategy. These communities primarily wanted:

- The cultural significance of indigenous fishing to be recognised
- More indigenous people involved in managing fish resources
- Greater community consultation with indigenous people

All the indicators of Wollongong community interest point towards further support and reinvigoration for the projects outlined below. With the requirements of the National Greenhouse and Energy Reporting Bill (2007) and the Abatement Incentives Program now being discussed, the following projects are proposed for further coordinated discussion and development with Illawarra residents and related stakeholders.

3. INITIAL PROJECTS FOR CONSULTATION AND FUNDING

Clean Energy Action Plan: Towards 50/50 by 2020 in the Bega Valley Shire

In 2007 the Clean Energy Working Group (PO Box 874 Bega, NSW 2550, admin@cleanenergyforeternity.net.au) produced a detailed 36 page plan which is suitable for the widest possible consideration and implementation. The organization is a voluntary climate change group in the Bega Valley. Its mission is to see the electorate engaged in a conversation about clean energy issues once a week; to raise the level of community knowledge and enable access to reliable information about clean energy issues; and to promote and stimulate relevant bodies to take appropriate action to reduce energy use and develop local clean energy generation projects. The group also seeks to inform voters on candidates' policies on clean energy for each election.

The Wollongong City Centre Plan and the Blue Mile Vision

The NSW Government identified six regional cities, including Wollongong, which are critical to the growth of NSW. In partnership with Wollongong City Council, the Cities Taskforce has been established to develop a vision for the city centre and planning

documents supporting the Wollongong City Centre Plan have been produced to guide the city's growth. These include the Vision document; the Local Environment Plan; the Development Control Plan and the Civic Improvement Plan. Plan highlights included 10,000 new jobs; 6,000 more people; increased floor space in the city centre; increasing heights leading up to the railway station; Crown Street Mall revitalization; improving the foreshore; developing the railway precinct; bus transport initiatives. Initial community consultations closed in September 2006.

The Blue Mile Vision is a related city planning vision to maximise Wollongong's attractiveness and advantages as a city by the sea. The Blue Mile Master Plan outlines the creation of a significant point of focus along the beautiful city foreshore. Pedestrian promenades, cycleways, foreshore parks, outdoor cafes and entertainment facilities are some of the elements which are now being considered in this context. The Foreshore Master Plan is on exhibition at Wollongong City Council until 15th October 2007.

The Hi-Tech Consulting Eco-City Proposal starting with a Ferry Service

In 2003 the Australian Business Foundation identified four key areas for action to expand the Illawarra economy. One was to invest in infrastructure that connects people and places in and between regions, particularly transport. Another called for investing in knowledge infrastructure to transform the region. In 2003 the state government agreed to turn Port Kembla into the car import capital of Australia with a \$167 million upgrade to the inner harbour. It is estimated that 32,300 cars and 10,000 containers per year will use Port Kembla instead of East Darling Harbour. The first car shipment occurred this month and the NSW Premier pointed out on ABC TV (5.10.07) that this will produce a major increase in road traffic, unless better forms of transport, such as train, are available cost-effectively. The potential for the development of ferry services is necessarily considered in this context of change in ports and their related rail requirements.

In 2004, to complement and assist implementation of the NSW 'Growing Together' Tourism Master Plan, Hi-Tech Consulting made a proposal to develop Wollongong as Australia's first Eco-City with the combined resources of Wollongong, Shellharbour, Kiama City Council, and the Illawarra Regional Tourism Organization. Key to the Hi-Tech proposal was the early construction of a wharf and ferry development centring on Wollongong. In 2004 Securities International Ltd indicated their interest in providing funding to the project, but it has not yet gone ahead. In preliminary meetings with Stephen Driscoll, State Manager of the Minor Ports Unit in the Department of Lands, Hi-Tech argued that pivotal to transforming Wollongong into Australia's first Eco-City is the development of a ferry terminus and fisherman's wharf at Belmore Basin, Wollongong. The development would act as a catalyst to further stimulate investment for the city and to develop the integrated foreshore and transport plan proposed towards an Eco-City.

The ferry project began in 1993 when Securities International Investment Bankers CEO, Stephen Duncan, first proposed a high speed ferry service between Gosford and Circular Quay and formed a business relationship with Frank Coluccio for this purpose. The objective of the Illawarra ferries would be to operate an international standard high speed

ferry service to attract the international inbound, interstate and intrastate tourist market which would also be a catalyst to transform Wollongong into Australia's first Eco-City. The project funding estimates are based on a proposal for operating 2 round trips from Circular Quay, Sydney to Wollongong and Kiama Harbour 350 days per year. Further details of the proposed project are available for discussion from Hi-Tech Consulting.

Providing Development, Research and Education Support at Wollongong

The Wollongong Innovation Campus

The Wollongong Innovation Campus proposal arose because the University of Wollongong, in partnership with the state government, the private sector and local councils, is developing a new technology precinct at Brandon Park. It is expected that the site will become home to some of Australia's most innovative information technology, communications, film, television and multi media companies.

In 2000, representatives of Zernike were invited to Wollongong by Hi-Tech Consulting Pty Ltd to meet with the state member for Wollongong, Noreen Hay, the Deputy Lord Mayor, Kiri Jonovski and representatives of the University of Wollongong. The purpose was to assess the demand, viability and opportunity for Zernike in a joint venture with Hi-Tech Consulting to add value and expertise towards the future development of the Wollongong Innovation Campus. Zernike produced a lengthy report as a result of these meetings and its investigations, which is available upon request. The aim of the Wollongong Innovation Campus is to enhance the economic and cultural wealth of all participants by providing the best environment in the Asia-Pacific region for people and organizations to exchange and develop ideas, and deliver innovative outcomes.

The Innovation Campus site at Brandon Park is about 20 hectares and lies just to the north of the Wollongong central business district. It is a spacious, open environment close to the ocean with views of the coastline and escarpment. The site also lies on what is emerging as the 'Wollongong Research and Education Campus Corridor' which links the Wollongong Conservatorium of Music and Botanic Gardens, the University of Wollongong, the Illawarra Institute of TAFE, the North Wollongong Campus, the Keira Technology High School and Wollongong High School of the Performing Arts along the western side of the railway line. To the east of the railway is the Wollongong Innovation Campus, the recently constructed Wollongong Science Centre, the University's Hall of Residence at Campus East and the annex to the Wollongong Botanic Gardens.

Proposal for a Sustainable Industries Development Institute (SIDI)

Most recently, a Sustainable Industries Development Institute (SIDI) has been proposed for Wollongong. Its nucleus would form the largest and most multidisciplinary of the University of Wollongong's prestigious research institutes and provides the umbrella organization for the five research centres and groups of more than sixty senior academic staff who have built up an international reputation for quality environmental research and innovative teaching over more than a decade. The SIDI would aim to contribute to the

advancement of academic performance and reputation by enhancing research, teaching, and consultancy work on sustainable industry development issues; by encouraging maximum coherence and collaboration in these activities and by presenting a clear and unified picture of them to the world.

The work of the Institute could encompass the broad range of environmental research expertise, which spans fundamental investigation of the Australian biota through to practical engineering and policy solutions for managing environmental problems. Wollongong researchers are interested in studies related to climate change and carbon market development, but are also concerned with the broader range of environmental accounting standards, environmental policy and regulatory frameworks to develop effective eco-exchanges. Many have related interests in biodiversity conservation and the development of the supporting conservation economy. Coastal, estuarine and catchment studies, water quality and management, and maritime and natural resource law and policy are also major interests.

Supporting education for skills development through website design

Research, information and education programs must be coordinated more effectively in Wollongong and its environs to support ecologically sustainable development and all its benefits. Promoting the new TAFE Graduate Certificate in Ecologically Sustainable Development requires consideration in this context, along with other relevant skills development. A presentation on Partnerships in Sustainability organized in Sydney by the IPAA suggested many possibilities for education provision. It was addressed by Megan Lynch, Associate Director, Green Capital, of the Total Environment Centre and Geoff Young, Manager of Community Education, NSW Dept. of Environment and Climate Change. The Total Environment Centre has developed partnerships with a wide range of large private sector players to achieve their joint sustainability goals, as well as with a range of suitable government and voluntary sector partners, through the Integrated Sustainability Education Partnership Program of the NSW Environmental Trust.

There is now a clear opportunity to support the total development context described above through website development which provides information to assist sustainability, including more open, flexible education. Curriki, (www.Curriki.org) is a comparatively new organization which has similarities with Wikipedia, except that it collects education content on its open website, rather than providing an encyclopedia function. Certification of competency is a separate but related issue. However, Curriki development is lacking for a variety of reasons and there is much room for improvement as well as future collaboration. Consideration should now be given to putting suitable open education content for health and sustainable development on a Wollongong based website which is also designed to address regional skills shortages as rapidly and effectively as possible.

For eleven years prior to March 2007, Carol O'Donnell taught health policy at Sydney University. She now offers a lot of free, basic education content. This aims to promote critical understanding of global development and awareness of how to identify and devise projects to promote health and sustainable development towards triple bottom line

accounting in any local, regional or global community or industry context. She would like this basic education content to be considered for use in any relevant website development. All offers of education and related information should be considered.

Key Publications:

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HOW IS THE CARBON PRICE SET?

Epuron's submission to the Inquiry into Electricity Supply in NSW (Owen Report), proposed the establishment of an internationally consistent carbon pricing scheme in NSW (Owen, 2007, p.5-6). In its sketchy discussion of emissions trading schemes, the Owen report says carbon prices (and therefore also the price of carbon permits?) are not set by government (p.5-5). It goes on to say that if the government wanted to control the price of emissions absolutely, then it could implement a carbon tax. It then states the following, which it also attributes to Perman et al (2003) in Natural Resource and Environmental Economics:

'As government cannot set both the price and quantity of emissions, the consensus emerging is that controlling quantity, as under a cap and trade system has the highest likelihood of achieving an emission reduction target (Owen p.5-6)

In my view, government regulators cannot and do not control the quantity of emissions. Neither would a carbon tax control the price of emissions absolutely, as stated by Owen.

Industry and government producers of goods and services are overwhelmingly in charge of the quantity of emissions entering the environment. Government regulators can only try to provide incentives for their reduction, which may or may not work. A carbon tax or trading system encourages producers to reduce emissions, but could not control this.

In my view, it therefore seems that the regulatory arm of government should be responsible for consultatively setting the price of carbon, in a way which also provides incentives to industry and government producers to reduce their quantity of emissions, in order to meet government emissions targets, as they are progressively reduced. Competition between producers ideally drives the emissions reduction process. I think this is also the view of the Climate Change Group in the Department of Prime Minister and Cabinet. If I am correct, why does Owen not appear to share it, as outlined above?

I also refer you to the article in today's Australian Fin. Review from The Economist, entitled 'Coal power a burning issue'. This is also clear as mud to me. It states:

In theory, the carbon price (in Europe) and the threat of one (in the US) should dent enthusiasm for coal. But in practice many utilities are betting that the disparity in fuel prices will outweigh the cost of extra permits to pollute. At the moment permits cost pennies in Europe because governments handed out too many of them.

Although there should be more of a shortage starting next year, the futures price would have to rise from the current 22 per tonne of carbon to over 30 per tonne to prompt a significant switch away from coal over the next two years, according to Henrik Hasselknappe of Point Carbon consultancy.' (AFR 19.11.07, p. 60)

I wonder:

- 1. Why was the government handing out the permits if it did not set the price and how did its activities relate to those of the market?**
- 2. Aren't permits an alternative to money, the supply of which is normally under government control?**
- 3. How and why does the futures price (which I understand ideally as an insurance related concept transported into a free market setting) affect carbon price setting?**
- 4. What does a futures price of 22 or 30 per ton of carbon actually mean?**

I am only capable of understanding risk management concepts in the insurance context I learned in the WorkCover Authority and in teaching about health at Sydney Uni, which I discuss in the attached. I cannot understand the direction that the Owen Report and the Economist are coming from, as I discuss above. I think the community urgently needs to get clearer advice on this vitally important issue of how carbon is best priced. Could someone please clear this up for us? I'd be grateful for any suggestions. I don't like the Prime Minister's chances of saying useful stuff in Bali in the current confusing context.

Cheers
Carol O'Donnell