Part A - The Strategic Framework

1. Executive summary

Deeper goals need to be set if we are to stabilise global climate change. The City of Melbourne has taken on this challenge, developing a roadmap for the municipality to achieve zero (net) greenhouse gas emissions[1] by 2020, ending the City's contribution to global warming within 20 years. It is a strategy for the City of Melbourne and its commercial, industrial and residential inhabitants. The roadmap, known as the ***Zero Net Emissions by 2020*** strategy, is a natural extension of Council's Cities for Climate Protection and Greenhouse Challenge commitments and has been envisaged as a blueprint for other Asia Pacific Economic Cooperation (APEC) economies.

Zero Net Emissions by 2020 turns what seems a serious threat to the Melbourne's economy and way of life into an opportunity for economic growth, environmental improvements and social cohesion – a triple bottom line business equation. In doing so, the City of Melbourne can make a decisive contribution to positioning itself as a centre for productive, knowledge-based industries, with a quality lifestyle and environment. Profiling Melbourne as a centre for 'green productivity'[2] is the consistent theme of the Strategy.

The Strategy aims to use market mechanisms and appropriate regulations to influence the billions of dollars of mainstream business investment that will take place in buildings, plant and power generation over the next two decades. It envisages commercial, industrial and residential investment in superior energy-efficient design. Rather than add to the costs of doing business in Melbourne, the net result of such investment is to reduce operating costs and enhance Melbourne's business competitiveness.

Through consultations with key stakeholders, a detailed action plan has been developed, the key features of which are specified in the box beside.

Zero Net Emissions by 2020: the major initiatives

- **privately financed, world class green buildings[3],** catalysed by the City of Melbourne from the growing consumer and developer interest in green buildings;
- a **Centre for Greenhouse Expertise and Technology** to ensure local businesses have access to leading-edge design, to stimulate and support innovation in green energy and to develop service and technology exports – with a target of 10% p.a. growth;
- active marketing of a **'green productivity'** profile promoting Melbourne as a location for knowledge-based industries with high worker productivity and quality lifestyle, based on a local culture committed to the principles of sustainability, and having a built environment that delivers convenience, efficiency, health and security;
- voluntary **carbon trading market**, to allow businesses flexibility in their approach to emissions management, while preparing Melbourne for international carbon trading;
- **progressive strengthening of regulations** on energy performance requirements for buildings;
- a **'green supply chain'** to the City of Melbourne with progressively strengthening standards;
- stimulating demand for renewable and efficient energy through **City-led buying consortia**;
- a **pilot sequestration investment by the City in blue mallee eucalypts** as feedstock for renewable power generation, with eucalyptus oil as a by-product, leading to sequestration of 10% of the City of Melbourne's corporate emissions in 2005 and 50% by 2010;
- access for businesses to **investments in carbon sequestration projects**, linked to the emissions market, that deliver a sound financial return, with upsides in carbon trading credits, salinity credits and biodiversity credits.

[1] Greenhouse gases such as carbon dioxide, methane and nitrous oxide have been released into the atmosphere in increasing concentrations over the past 200 years as a result of human activity (eg. use of fossil fuels, deforestation). The result is increased heat trapping in the atmosphere known as the enhanced greenhouse effect, which will ultimately change global weather and climate (often referred to as climate change or global warming).

[2] Green productivity is the enhanced economic efficiency achieved through investment in knowledge-based industries and technologies that respond to consumer, shareholder and worker demand for improved environmental performance and social responsibility.

[3] Green buildings are defined as having minimum adverse impacts on the built and natural environment, in terms of the buildings themselves, their immediate surroundings and the broader regional and global setting. Put simply, they are designed to minimise the total environmental impact of their materials, construction, operation and deconstruction while maximising opportunities for indoor environmental quality and performance; saving money, reducing waste, increasing worker productivity and creating healthier environments for people to live and work. The use of the phrase Green Buildings is interchangeably used with other phrases such as ESD buildings and ecologically sustainable buildings in this Strategy.

The Strategy gains leverage from aligning the City of Melbourne's activities with State and Federal Government Greenhouse programs, and from tapping growing interest from the private sector in the development of a green profile. Building interest and support for the Strategy from stakeholders to achieve effective action is the decisive leadership challenge facing the City of Melbourne – far more important than technological issues. A sustainable business advantage through 'green productivity' in Melbourne will require the City of Melbourne to persuade its businesses, workers and residents to embrace and live the principles of sustainability.

1.1 Underpinning strategies

There are three core strategies underpinning the detailed action plan:

- **Leading edge design** - exploiting the natural cycle of rebuilding and refurbishing in Melbourne to improve design and thus achieve a 50% reduction in energy use of the City's residential and commercial building stock. Research shows that this figure is achievable at minimal additional capital cost or with good payback – indeed, the design measures will significantly reduce ongoing operating costs, thereby enhancing the City's business competitiveness.
- **Greening the power supply** - stimulating demand for renewable energy and energy-efficient power such as combined cycle coal gasification and fuel cells, as well as encouraging cogeneration and embedded energy supply, especially at industrials sites. These measures aim to increase the use of renewable energy to 45% of projected demand by 2020, and to achieve a 50% reduction in emissions from non-renewable resources.
- **Carbon sequestration**[4] - investment in carbon sequestration to offset remaining emissions, and stimulating investment in the regions of Victoria that are intimately linked to the City's economic viability, environmental impact and social equity. This strategy aims to sequester the equivalent of 50% of the City of Melbourne's own corporate emissions by 2010.

1.2 Integrating the Strategy

The three underpinning strategies create a variety of options and paths forward for the City of Melbourne, its business and private residents. Rather than seek to control or prescribe the choice between these options, the Strategy has three overarching initiatives that integrate the choices made by the various stakeholders. The first is the 'green productivity' profile that gives all stakeholders ownership of the goal of zero net emissions. The profile would enable active marketing of Melbourne as a location for knowledge-based industries, with high worker productivity and quality lifestyle.

The second is the introduction of a carbon trading market in Melbourne enabling businesses to become familiar with the practice of carbon accounting. A carbon trading market would involve allocating emissions permits under an emissions reduction program to participants and trading would occur when parties needed to trade surplus emission credits from other parties (vice versa) to meet their targets. Such a market would position the City of Melbourne and its businesses for eventual international trading in carbon credits. The market mechanism also maximises the choice available to participants and helps manage the uncertainties inherent in long-term planning. It will also minimise the administration cost of the Strategy and allow easy updating as changes occur in Australia's international business environment, local business practices, international, national and state regulatory frameworks, and technology.

The trading scheme would initially be voluntary, appealing to the growing interest among resident businesses in promoting themselves to staff and customers as environmentally responsible. As the market evolves, participation could become mandatory for all those in Council's supply chain and the supply chains of other participants.

The third integrating initiative is the proposed Centre for Greenhouse Expertise and Technology, synergising the disparate public and private sources of expertise already in the City, in Greater Melbourne and elsewhere in Victoria. The State Government will have a crucial role to play in such a Centre as many of the proposed initiatives will require collaboration with the State. Collaboration is proposed through Memoranda of Understanding with relevant agencies, and the crucial linkages are identified in the Strategy.

[4] Sequestration is the process of removing gases such as carbon dioxide from the atmosphere. Planting trees is one way of removing carbon dioxide (trees absorb and incorporate carbon in their wood, leaves and roots), capturing and storing carbon dioxide in oil wells is another. Oceans also naturally absorb carbon dioxide. The trees, wells and the ocean are referred to as sinks.

Transport and embodied energy are excluded from the scope of the Strategy because they are not able to be directly influenced by the City of Melbourne, make a relatively small contribution to the City of Melbourne's emissions profile and are being pursued by state and federal authorities through various programs. However, the potential exists to expand the scope to cover these elements in future: the expertise and commitment to greenhouse reductions that the Strategy engenders will naturally expand the City of Melbourne's vision and confidence in finding other solutions that improve all three components of the triple bottom line. Indeed, over time, the Strategy may evolve into a Strategy for a Sustainable City, rather than being confined to Greenhouse.

1.3 Cost of the Strategy

The cost to the City of Melbourne of implementing the Strategy is estimated at $1.75 million over the next 5 years, some of which can be financed under existing programs and through grants and co-funding arrangements with partners. In addition, the Strategy involves commercial investments of $576,000 in plantations over 5 years, $500,000 to seed the emissions trading market and a possible investment over the next two years towards the establishment of a Centre for Greenhouse Expertise and Technology (a public/private investment). All of these investments appear to offer good commercial returns and could be evaluated under the Sustainable Melbourne Fund, which would provide due diligence on the proposals. Alternatively, the City of Melbourne may be able to broker full private financing.

1.4 The Balanced Scorecard

The actions in this Strategy have been grouped according to a 'balanced scorecard' framework:

- financial benefits (e.g. investment, service exports, cost savings)
- business processes (e.g. carbon trading, supply chains, purchasing consortia)
- stakeholder management, (e.g. green profile)
- learning and growth (e.g. Centre for Expertise and Technology).

This framework enables investments and actions to be assessed not only in terms of their direct economic, environmental and social outcomes, but also in terms of how they build the City of Melbourne's long-term capability to improve its triple bottom line performance[5]. The result is a sustainable business matrix.

As with any long-term plan, there are major uncertainties in what lies ahead. This will mean that the Strategy will have to be regularly updated and some of the initiatives proposed will have to be amended or even dropped as further information becomes available. On a positive note, the uncertainties present major potential upsides. Technological change, the growing support for triple bottom line business, and increasing consumer support for 'mainstreaming' environmental issues, could all radically improve the outlook.

1.5 Seizing the opportunity

The opportunity identified in this Strategy for Melbourne must be seized soon. A City of Melbourne profile that integrates economic benefit with environmental and social gains will be hotly contested in future years by other Cities. This Strategy gives Melbourne a head start – if successfully executed this Strategy, will place the City of Melbourne as the first City in the world to establish a municipal emissions trading scheme, recognise and manage the impact of its environmental footprint into nearby ecologically fragile rural districts and adopt the stretch target of zero net emissions by 2020.

[5] Performance measured in terms of economic prosperity, social equity and environmental quality