



Submission by Southern Sydney Regional Organisation of Councils to the

Inquiry into Sustainable Cities 2025

1. INTRODUCTION

The Southern Sydney Regional Organisation of Councils (SSROC) welcomes the opportunity to make a submission to the Inquiry into Sustainable Cities 2025. This submission is subject to formal endorsement by the SSROC Board. SSROC will contact the Inquiry Secretariat immediately after the next Board meeting should the Region wish to modify this submission in any way.

SSROC would be happy to provide any additional material to support the points raised in this submission. Member Councils of SSROC may be making individual submissions to the Inquiry.

1.1 Composition and Role of SSROC

The Southern Sydney Regional Organisation of Councils (SSROC) is a voluntary grouping of councils established in 1986. Its aim is to achieve sustainable solutions to the challenges facing the southern Sydney region through the sharing of resources, cooperation in policy development and regional advocacy.

Councils represented are:

- Botany Bay City
- Canterbury City
- Hurstville City
- Kogarah
- Marrickville
- Randwick City
- Rockdale City
- South Sydney City
- Sutherland Shire
- Waverley
- Woollahra

Together these eleven Councils represent more than one million people.

SSROC undertakes a wide range of continuing programs and special projects, utilising both local government resources and grant funding and has become a key element in the structure of governance in the region. Examples of recent and current regional projects include:

- *St George Regional Transport Study*
- *SSROC Joint Purchasing Program* – bulk purchase of goods and services.
- *Botany Bay Program* – an integrated planning project for the Bay and catchment.

- *East Timor Partnership* – assisting to rebuild partner communities in East Timor through capacity building and co-operation
- *Affordable Housing*– position paper proposing actions to maintain and encourage the provision of affordable housing in the southern Sydney area
- *'FleetSafe'* - a model policy and guidelines for improving driver and vehicle safety
- *Road Safety* – various campaigns
- *Sustainability Initiatives* - including production of *Guidelines for Decision Makers* and a sustainable purchasing policy
- *Environmental Improvement Programs* - including soil and water management guidelines, contaminated land management policy, stormwater initiatives
- *'Green Web Sydney'* and *Southern Sydney Seed Banks* – to establish, protect and maintain biodiversity corridors
- *Various projects to assist councils meet statutory obligations and improve services* - including records management, street lighting, development assessment
- *Regional Greenhouse Action Plan* – helping councils to implement their Cities for Climate Protection Programs at a regional level.
- *Lobbying and Advocacy* - a wide range of initiatives.

Further details are available on the SSROC website: www.ssroc.nsw.gov.au

1.2 Structure of this Submission

In the remainder of this submission:

- Part 2 addresses the questions for consideration raised in the Discussion Paper
- Part 3 makes additional points relating to the Inquiry's Terms of Reference which were not covered in the Discussion Paper.

2. THE SUSTAINABLE AUSTRALIAN CITY OF THE FUTURE

2.1 Preserve Bushland, Significant Heritage and Urban Green Zones

SSROC values a harmonised approach to the preservation of bushland, heritage and urban green zones within the built environment. Member councils have put in place a range of strategies to accommodate increasing population pressures while retaining the essential bushland character of the area.

Preservation of urban bushland is a vital component of a sustainable city, because it:

- provides habitat for native fauna
- maintains recreational opportunities
- retains wildlife corridors between remnant vegetation communities
- contributes to the aesthetic value of the region
- adds shade and filtered light to the urban form
- purifies the air
- builds community (and hence increases liveability) through establishment of community ties.

Within the Sydney Basin, conditions exist which can result in high pollution levels. Around 1.2 million tonnes of pollutants enter Sydney's airshed each year, with motor vehicles contributing approximately 75% of this material.

Local Government Action

Sydney ROCs are leading the way in promoting a reasonable balance between urban expansion and bushland preservation through the adoption of Green Web, Sydney. Green Web Sydney was prepared by the Sydney Regional Organisations of Councils (comprising all Sydney metropolitan ROCs) and funded by the Commonwealth, to encourage the establishment of habitat corridors to link fragmented patches of bushland and facilitate the migration of wildlife and natural dispersal of native plants. Green Web Sydney also emphasises local government's role in biodiversity management and suggests actions and strategies that Sydney's local councils can adopt to protect and enhance habitat corridors and to extend habitat through Sydney's backyards. Green Web has mapped remnant vegetation and directs revegetation efforts for community groups and government to re-establish corridors between isolated communities. Several SSROC councils have recognised Green Web Sydney in Local Environment Plans and other planning instruments. Communities appreciate the opportunity to get to know their neighbours and build community trust, through working together on a project.

Suggestions for Commonwealth Action

Nevertheless, urban expansion continues to exact a high cost on native vegetation on the urban front. There needs to be a greater focus on providing incentives to prevent city backyards, with potential habitat space, from accommodating nothing more than paving or pools. Further funding, and perhaps an expansion to other areas, of the successful Green Web program is suggested. The program could easily be structured along the lines of the successful Cities for Climate Protection Program, which awards councils for achieving certain milestones.

2.2 Ensure Equitable Access to and Efficient Use of Energy, Including Renewable Energy Sources

Australia has one of the highest levels of per capita energy usage in the world and our energy use has doubled over the past 25 years. In fact, it has grown faster than GDP, unlike most other developed countries (ASEC 2001a). With the rest of the developed world becoming more aware of

national environmental responsibilities, it is becoming more difficult to trade with these nations if the trading partner cannot demonstrate certain similar levels of responsibility.

2.2.1 Energy Generation

The generation of electricity accounts for the single largest use of energy in Australia in comparison to other uses such as transport and gas heating (ASEC 2001a). Australia is faced with a choice – either stick with coal-fired power stations or switch to renewable energy. The former option will mean business is stifled, as restrictions increase on energy use and an emphasis on energy efficiency. The renewable energy option will not stifle business at all, and in fact will increase chances of trade with the growing number of nations that require their partners to behave in environmentally responsible ways.

Suggestions for Commonwealth Action

Is it therefore SSROC's view that mandatory measures to generate a proportion of electricity from renewable sources are essential to achieve a sustainable city. The current proportion is about 10% and falling (RTWG 1999). Implementing stronger legislation to increase the proportion of electricity generated from renewable sources is needed to reverse the trend. The Government's 2% Renewables Target (requiring energy suppliers to buy renewable energy) needs to be increased annually.

Currently the Commonwealth Government's subsidies to coal-fired power stations impede the development of renewable energy sources. Electricity prices in Australia are much lower than many other developed countries and less than half the price of electricity in Germany, Denmark, Japan and Italy (ASEC 2001a). Reform of the energy markets saw electricity prices drop between 1997 and 1999 (ASEC 2001b). However, these savings do not account for the environmental costs of operating coal-fired power stations (ASEC 2001a). Full pricing of energy generation that reveals both existing subsidies and the cost of carbon emissions is needed to provide a level playing field to all energy sources, in line with the Government's commitment to National Competition Policy.

Energy generated from renewable sources needs to be affordable. Government has the capacity to intervene to provide incentives to reduce dependence on environmentally damaging energy sources. Economic tools are currently inappropriately applied to energy markets. We are subsidising coal-fired power stations, which cause environmental harm, and penalising purchases of 'green' electricity by premium pricing. This situation needs to be reversed. NSW Government Sustainable Energy Development Authority (SEDA) ran a Green Power logo license scheme whereby companies that use a certain percentage of green power can use a specific logo for promotional purposes. This sort of scheme could be expanded nationally.

2.2.3 Energy Efficiency

Continuing dependence on fossil-based energy requires increasing levels of energy efficiency measures to minimise the environmental costs of this source. This is the enormous hidden cost of not adopting greener methods of energy generation, however it is our only short-term option. Increasing the efficiency of energy use by consumers is often the most cost-effective way to reduce the environmental impacts of a sustainable city (ASEC 2001a). The low price of electricity in Australia however, provides less incentive to improve efficiency (ASEC 2001b). There are an array of challenges which can only be addressed through a suite of policies.

The commercial sector is responsible for the highest growth levels in energy consumption, mainly electricity (ASEC 2001b). New business operations, dwellings and appliances in a sustainable city should be required to abide by higher efficiency standards. For example, energy-efficient refrigerators and energy-efficient lighting can consume up to 70% and 30% less electricity respectively than conventional appliances (ASEC 2001b). The reuse and recycling of building

materials saves up to 95% of embodied energy (ASEC 2001b). Passive design principles reduce the energy required to maintain thermal comfort (Commonwealth of Australia, 2001).

Local Government Action

Local governments have been actively promoting higher efficiency standards as part of the Cities for Climate Protection Program (CCP). To date, over 180 Australian councils have committed to participating in the worldwide CCP program, including, after a recruitment drive by our organisation, all SSROC member councils. Australian councils have signed up faster than any other nation to implement measures to reduce emissions (ASEC 2001a; Hill 1998; iclei.org/anz). All SSROC councils are actively working with their communities to reduce greenhouse gas emissions and hence energy use. Councils have also signed to Energy Smart Homes (NSW Govt/SEDA initiative) to improve energy efficiency in developments.

SSROC has recently lead the way toward dramatically reducing the amount of energy used in streetlighting. Service providers had neglected this area of energy consumption for decades, replacing globes with old and inefficient technology. SSROC ran a tender process to determine the best new globes and fittings to increase lighting levels (thus increasing community safety), decrease light pollution, reduce maintenance costs, and reduce energy consumption. Twenty-three councils to date have signed up with the project.

The planning codes system administered by local government can be used to regulate the energy efficiency of new dwellings. In NSW, 51 councils participate in the Energy Smart Homes policy. The policy requires that new homes, major alterations and additions achieve a NatHERS¹ rating of at least 3.5 (ASEC 2001b). In addition to enforcing NatHERS certification, local government encourages the installation of energy and water efficient appliances through various incentive programs.

Suggestions for Commonwealth Action

The Australian Greenhouse Office published the multi-award winning *Your Home*, taking the lead in providing information on sustainable building practices to developers, home builders and renovators. This lead could be extended by the Commonwealth constructing model sustainable buildings to inspire the industry. An opportunity exists for the Commonwealth to specify sustainable design for all its properties including those being rezoned for residential and commercial development.

The Commonwealth could assist in the standardisation of design guidelines for energy (and water) efficient technologies through the existing building codes and labelling schemes. At present, the Building Code of Australia sets out guidelines with which all new buildings must comply. Victoria and the ACT have mandated additional guidelines relating to the energy efficiency of new buildings (ASEC 2001b). Strengthened guidelines at the national level with an emphasis on sustainable building design guidelines would improve the sustainability of all Australian cities.

SSROC believes that many existing programs should be continued and enhanced. These include:

- Rebates for solar water heaters
- Building and Appliance Performance ratings
- Consumer information programs
- Pricing reform (e.g. to reduce the subsidy received by large, peak-period air-conditioning users)
- Mandatory greenhouse abatement programs (e.g. the NSW Greenhouse Abatement Certificates program)

¹ The Nationwide House Energy Rating Scheme (NatHERS) is a tool to rate the energy efficiency of houses.

- Support for residential energy generation

In addition, SSROC believes there may be opportunities to introduce a number of additional targeted programs, such as:

- Stamp duty reduction on energy efficiency homes;
- Tax or other incentives for landlords who upgrade energy efficiency; and
- Mandatory energy ratings at the time of sale of an existing home.

2.2.4 Residential Energy Generation

At present it is not economically feasible for the majority of households to install photovoltaic cells and solar hot water systems. Currently only 4% of Australian households use solar energy, primarily for heating water (ABS 2002). The main barrier preventing solar energy from being a more common household energy source is the cost of purchasing and installing equipment (ABS 1998). Currently the Photovoltaic Rebate Program assists with installing solar energy systems in Australian households, however the program does not have enough funding to keep up with the demand for rebates. Greater rebates are required to encourage higher take-up. Similarly, new housing developments could incorporate alternative energy sources. This can be achieved through a mix of regulation, financial incentives and education. Commonwealth assistance in funding the incentive programs and providing tax relief to energy efficient technologies would improve the energy efficiency of Australia's building stock.

2.2.5 Cleaner Transport Systems

With respect to transport systems [Point 8], SSROC believes that priority should be given to providing more convenient and safe public transport networks rather than energy efficient systems at this stage. The reduced pollution and energy use from the number of vehicles taken off the road by a single train more than compensates for any perceived lack of energy efficiency of the train itself.

2.3 Establish an Integrated Sustainable Water and Stormwater Management System Addressing Capture, Consumption Treatment and Re-Use Opportunities

Efficiencies and improvements in the water system, from supply to use, reuse and release have the potential to improve the Australian environment. Now is the time, with the country in drought and the community consequently more aware of the need to conserve water, to introduce such measures. For example, collected and stored roof water can be available for garden watering, car washing and internal uses such as toilet flushing and clothes washing. Similarly, run-off from all impermeable surfaces can be detained and reused after treatment for neighbourhood landscape watering.

Water efficiencies have been proven as the most cost effective method of creating a sustainable water management system. Efficient fixtures such as AAA-rated showerheads and taps as well as dual flush toilets and front-loading washing machines reduce water demand and water volumes entering the sewer. A single inefficient showerhead can use 15 litres of water every minute while an efficient one will provide a quality shower using only 7 litres every minute. Each household that installs water efficient showerheads reduces flows to the sewerage system by about 25kL/a (25,000 litres per household per year). Similarly, each 6/3 dual flush toilet that replaces an 11 litre single flush toilet is equivalent to a 35kL/a reduction in sewage volumes. A front-loading washing machine will save 20kL/a over a conventional top loader. Together, these measures can reduce wastewater volumes by about 80,000 litres per household per year, which in turn reduces pressure on the existing sewerage infrastructure and correspondingly reduces the risk of overflow incidents (Woodcock & White, 2002).

Local Government Action

SSROC believes that rainwater harvesting and reuse should be supported at the household and neighbourhood level. Rainwater tanks, bio filters, grey water reuse are currently being adopted by a number of new residential estates including Rouse Hill (NSW), Kogarah (NSW) and Lynbrook (Vic). Of these options rainwater tanks are the most cost effective method to reduce demand on mains water. Installation of rainwater tanks into new homes can reduce demand by 50% within 50 years. Treated greywater can be re-used indoors for toilet flushing and clothes washing, both of which are significant consumers of water. Grey water reuse can save around 135L/per person/day entering the sewerage system and offset demand for fresh water for tasks such as irrigation and toilet flushing.

Suggestions for Commonwealth Action

An area which could produce great improvements in stormwater is that of reducing the number of leaky household sewer lines and illegal backyard sewer connections to the stormwater. It is estimated that up to 60% of residences have either an illegal connection or leaky sewer (Sydney Water 1998). A national scheme to introduce a requirement to conduct a pipe inspection at time of home purchase (if the house has not already been inspected in, say, the last 7 years), could be a solution.

2.4 Manage and Minimise Domestic Waste

It is critical that sustainable Australian cities develop mechanisms to manage waste more effectively. Australia has the second highest domestic waste production per capita among OECD nations (AURDR 1995). Cities play a major role in national waste cycles. The Sydney Metropolitan Area produces more than two-thirds of the State's solid wastes (EPA 2000a, 14). This contributes significantly to Australia's ecological footprint.

A sustainable city benefits from higher environmental standards and waste treatment. These benefits are derived from greater efficiency of resource use, more competitive markets and more cost effective waste management. A further economic benefit for sustainable cities arises from increased trading opportunities with other environmentally responsible countries (Robins & Roberts 1998).

A sustainable city will provide appropriate waste management infrastructure for its inhabitants, encouraging greater responsibility for waste minimisation and management. For example, the success of kerbside recycling for household waste was only possible following the extensive provision of infrastructure: over 800,000 tonnes of materials are collected for recycling each year from Australian kerbsides. The provision of waste management infrastructure needs adequate funding. Several studies have found that waste management charges in many areas were too low to meet the financial costs to councils (AIC 1991; Travers Morgan 1992).

Improved waste management infrastructure is also required for commercial and industrial waste, which contributes around 10–20% of the total waste stream of major Australian cities (ASEC 2001b). Glass and paper/cardboard are the main materials recycled by the commercial and industrial sector, while plastic packaging and general industrial materials are recycled less (AWMTPI 2000, 108–9). For instance, nearly 1 million computers containing precious metals and toxic materials are thrown into landfills each year across Australia (preycling, 2003). Furthermore, it is estimated that 3.6 million computers are in permanent storage throughout Australia, due requirements for businesses to hold on to them until written off.

A sustainable city should incorporate effective infrastructure to enable greater streaming of commercial and industrial wastes. Businesses currently wanting to separate their waste streams for recycling, face costs. A sustainable city would provide financial incentives for businesses to increase recycling. At present around 360,000 tonnes of food waste are disposed by the

commercial and industrial sector in NSW alone, none of which is recycled (AWMTPI 2000, 30,109). The logistics of recycling collection in city offices could be modified to improve the extent of paper/cardboard collection (AWMTPI 2000, 109). Streaming of these materials enables capture and reprocessing. Residential recycling has proven to be one of the great Australian success stories. The challenge now exists for the commercial and industrial sectors to build on those achievements, however the whole program needs to be backed up by stable markets or else all recycling could be jeopardised.

Suggestions for Commonwealth Action

The Commonwealth Government could assist through the development of expanded markets for waste reprocessing. It has been demonstrated that government intervention through financial assistance, tax breaks, legislative reform or procurement guidelines, can lead to successful market development (AWMTPI 2000, 103). Australian markets for recycled materials are relatively small (AWMTPI 2000, 101), but new markets to reuse and reprocess waste materials can be developed, diversifying the end-uses for recycled materials. The National Packaging Covenant states that expanded markets are “essential to the sustainability of the recycling system”. (ANZECC 1996). A financial package should be provided to research new products made from waste resources.

2.4.1 Waste Processing

Waste reprocessing should, as far as possible, occur in proximity to the markets for recycled materials. Some types of waste can be reprocessed for useful consumption within cities, while the waste associated with other products should be returned to the rural areas where the products originated. For example, food waste generated by city inhabitants can potentially be recycled and returned to rural areas where it serves as useful fertiliser (Drechsel et al. 2002). Very little of the 480,000 tonnes of food waste produced annually in NSW is captured and reprocessed (AWMTPI 2000,107). In addition, there are opportunities for sewage to be utilised more effectively through processing for agricultural use (EBA 2002).

Environmental accountability should apply to industries located both inside and outside city boundaries. Cities tend to become magnets for waste and pollution yet the space limitations within cities limit capacity for waste management facilities (Drechsel et al. 2002). Available landfill capacity is rapidly decreasing and is particularly restricted within cities. Existing NSW landfills are expected to be exhausted by 2007 at current disposal rates (EPA in ASEC 2001b). The NSW Government’s *Alternative Waste Management Technologies and Practices Inquiry* found the greatest landfill capacity squeeze to be in the Sydney Metropolitan Area (AWMTPI 2001, 38). This means that immediate waste minimisation action is required in our cities.

2.4.2 Packaging

Reducing waste generation is generally considered to be the most effective way to address waste management issues (EPA 2000a). Regulation of packaging use by industry is one means to encourage eco-efficiency and the reduction of domestic waste. Packaging materials make up about 25% of the municipal waste stream with almost half of discarded packaging being recycled (AWMTPI 2000, 29). There may be scope for increased recycling but even more importantly, a sustainable city will address the source of the packaging waste stream (AWMTPI 2000, 29). Householders have little choice in the packaging available to them, making it difficult to reduce domestic waste. Waste avoidance messages aimed at the consumer have their place, but generally cannot compete with the sleek and well-researched advertising which convinces them to buy products.

Production processes that generate less waste are more cost-effective in the long-term since resources are used more efficiently (AWMTPI 2000, 31). According to the Organisation for Economic Co-operation and Development, the benefits of extended producer responsibility

include more efficient and competitive manufacturing, better materials management and reduced cost of waste management (OECD in White 2001a). Successful schemes for product stewardship and extended producer responsibility operate extensively in the United States, Japan, Canada and Western Europe (EPA 2001).

The National Packaging Covenant recognises that manufacturers have a responsibility to minimise excessive packaging and design packaging that uses less material (ANZECC 1996). Without greater industry responsibility within the waste cycle, the volume of waste being generated will not decrease (AWMTPI 2000, 104). It is apparent that voluntary initiatives by industry are not always effective and government regulation is required. For example, in the Netherlands and Germany, voluntary agreements on industrial waste reduction were ineffective and legislation was subsequently introduced (AWMTPI 2000, 39). Measures are needed to ensure that packaging is not excessive and is designed with recycling in mind to facilitate maximum recovery.

A common mechanism for extended producer responsibility is container deposit legislation (CDL), which mandates for a refundable deposit on certain containers to encourage their return for reuse or recycling by manufacturers. CDL has been operating in South Australia since 1976 and deposit-bearing items now comprise less than 1% of total litter (Recycler of South Australia Inc. in White 2001b). An independent review commissioned by the NSW Government demonstrated that introducing CDL in NSW would bring an estimated net economic benefit in the order of \$70–100 million per year to the state in terms of direct financial benefits to local councils and a net employment increase of between 1000 and 1500 full-time jobs. When environmental benefits were factored into these returns the projected net economic benefit increased to \$100–150 million per year, (White 2001b).

Extended producer responsibility applies to retailers as well. Plastic bags are an example of a substantial waste stream generated at the retail level. Every year Australians use almost 7 billion plastic bags, about 1% of which are recycled (PlanetARK 2003). SSROC has noted that the Southern Sydney Waste Board's investigations revealed that recyclable materials, such as paper/cardboard and commercial plastics, form the largest part of the waste stream for 60% of shopping centre retailers. Yet little recycling is undertaken by small to medium retailers in shopping centres (AWMTPI 2000,109). Education initiatives are required to inform retailers about the problems associated with excessive plastic bag usage. A levy on those plastic bags which are not made from bio-erodable materials, such as starch-based polymers, is another possibility. A plastic bag levy scheme in Ireland reduced plastic bag use by 90% within five months and in Denmark a similar scheme reduced plastic bag use by 70% (PlanetARK 2002). Some supermarket chains already charge customers for plastic bags to discourage their use (PlanetARK 2003).

2.5 Develop Sustainable Transport Networks, Nodal Complementarity and Logistics

SSROC believes that provision of convenient transport networks is the key to a sustainable city. Existing Australian cities such as Sydney, favour cars over pedestrians, cycling and public transport modes. A sustainable city should emphasise walking, cycling and public transport as the preferred method of travel or at least facilitate an inter-modal spilt that reduces reliance on private motor vehicles. The most attractive and liveable cities in the world (eg Amsterdam) have the best public transport, cycling and walking facilities.

Public transport networks in and between Australian cities need to be improved significantly to achieve this vision. The Sydney rail system is rapidly approaching capacity. Severe overcrowding on the Sydney rail network is presently experienced with chronic congestion occurring between Chatswood and Redfern and on train services to and from Cronulla (Parry, 2003). Furthermore, public transport is either unreliable or non-existent in many areas of the city fringe (Hutabarat *et al*, 1999).

Public transport systems such as rail and buses have been established in a radial fashion to funnel workers into the city centre. Public transport does not easily facilitate cross-city trips and is reduced on weekends and public holidays. Solutions such as light rail may address some of these problems in areas that are not well serviced by heavy rail networks. SSROC has been active in encouraging the re-introduction of light rail into Sydney.

Local Government Action

SSROC believes that public transport could be improved by changes in planning, ticketing and funding. Cities are now being planned around transport nodes such as railway interchanges, for example Green Square Town Centre, in South Sydney, and the high-density development around North Arncliffe/Wolli Creek in Rockdale, which is built around one of the railway interchanges on the new Airport Rail-link. The Draft Building Sustainability Index prepared by the NSW Department of Infrastructure, Planning and Natural Resources rewards less car parking bays (BASIX, 2003).

Another innovative approach is South Sydney City Council's Draft Land Use and Transport Development Control Plan No 11. This DCP introduces the concept of 'accessibility' to the management of parking rates. For residential land uses, accessibility relates to proximity to shops and level of public transport services. For other land uses, accessibility relates to levels of public transport services only. Accessibility is defined as high, medium or low and parking rates vary according to the accessibility of the area.

Suggestions for Commonwealth Action

Funding inequities remain the underlying challenge facing the Australian city of the future. Road transport is currently subsidised by government far in excess of public transport. Annualised figures for the basic transport asset and operating internal costs for transport in Sydney were estimated at 61 cents per passenger kilometre travelled (PKT) for cars, 28 cents per PKT for buses and 39 cents per PKT for trains. However, user costs were quite similar at 10 cents per PKT, 12 cents per PKT and 9 cents per PKT for cars, buses and trains respectively (Banfield *et al*, 1999). These costs exclude traffic policing, medical care and insurance. If these items were included, the calculations would show that car subsidies are far in excess of public transport, making private vehicle use an inefficient and less sustainable mode of travel.

These subsidy models are reflected in Commonwealth funding. Transport funding by the Commonwealth Government between 1975 and 1998 had the following expenditure:

- \$43 billion on roads;
- \$1.2 billion on rail; and
- \$1.3 billion on urban public transport (Laird, 1999).

One result of this inequity was the construction of a northern suburbs rail line in Perth, dependent on a State Government loan while the adjoining four-lane freeway was built using a Commonwealth grant. The solution is for the Commonwealth to provide transport funds rather than road funds. Transport projects should adopt the US model developed as part of the *1991 Surface Transportation Policy Project* where transport projects compete equally and are assessed on their efficiency to transport passengers and improve the social, environmental and economic value of the city. Effective funding should be transparent, community driven, fiscally constrained and inter-modal (Newman, 2000).

SSROC acknowledges that cars and roads will form a significant part of the urban landscape for the foreseeable future and therefore advocates a reduction in the impact of the existing vehicle fleet in tandem with the aforementioned public transport initiatives. The Commonwealth may contribute to the improved efficiency of the fleet by addressing issues such as duty and taxes. These currently favour 4WD's for private use. They also favour road transport over rail transport for commercial purposes through diesel subsidies. The current structure of Fringe Benefit Tax encourages car use and does not discourage employers from offering vehicles as part of

employee packages. The Commonwealth should consider giving tax breaks for employers offering public transport passes to employees.

Commonwealth financial support of hybrid and fuel-efficient cars would convey the Government's support for more sustainable transport modes. Similarly, the state governments could assist by packaging registration charges to reward fuel-efficient vehicles and vehicles with low annual vehicle kilometres travelled (VKT).

Efficient inter-modal systems that capture the value of the transport corridor are the foundation of a sustainable Australian city. Integrated ticketing would improve inter-modal transport opportunities, when transferring from bus to train and between transport service companies. Smart cards and time-based tickets are examples of integrated ticketing systems that may increase patronage on public transport.

2.6 Incorporate Eco-efficiency Principles into New Buildings and Housing

The NSW Sustainability Advisory Council recently commissioned a report entitled *Developing Strategies for Mainstreaming Sustainability*. The study revealed that progressive investment companies and developers see ecologically sustainable development as an essential business strategy. The industry needs market incentives and mechanisms to encourage best practice, as regulation will only take care of worst practice. Market incentive is the most critical factor influencing the success of sustainability in the building industry according to the research. Government has the opportunity to reassure the market that sustainability is welcome in the building industry (ISF & Sphere, 2002).

The critical factors hampering innovative design strategies and technologies in the building industry are inconsistent regulation, poor integration of people and process, and failure to provide market-based incentives (ISF & Sphere, 2002).

Suggestions for Commonwealth Action

SSROC believes that cohesive state and national guidelines on sustainability are necessary to provide consistent benchmarks for developers. BASIX will achieve this to some degree in NSW, however, national guidelines and a comprehensive labelling system will provide better standardisation and improve economies of scale for developers. It is understood that in NSW, compliance with BASIX will be mandatory and that it will replace aspects of development control plans at the local government level when it is released. Opportunities therefore exist for improved Commonwealth, State and local government cooperation to standardise sustainable building regulation and complement these guidelines with enhanced market incentives.

3. TERMS OF REFERENCE

3.1 The Environmental and Social Impacts of Sprawling Urban Development

Sprawling urban development results in the dislocation of suburbs from the city centres as public transport provision in outer areas is usually of poor standard with services minimal. The consequent social isolation often leads to boredom and anti-social behaviour – crime, domestic violence. Properties on the fringe are usually cheaper to buy, but not necessarily cheap to live in and thus encourage, and then entrench, social stratification.

It is also important to view cities as integrally connected to the surrounding regions. The economic and social prosperity of Sydney is directly dependent on the success of adjacent rural activities. Elements of that dependence include food, water, minerals and other raw materials for manufacturing. The value of agriculture in the Sydney Region has been estimated at \$1 billion and has a multiplier effect which makes it worth \$5 billion to the regional economy (NSW Agriculture, 2002). A sustainable city should recognise the mutual benefits gained from the city–country relationship.

Nevertheless, there is the potential for conflict where urban expansion meets the rural hinterland of a city. The environment on which all inhabitants depend suffers from clearing of rural areas for urban sprawl as well as increasing the energy costs and vehicle emissions associated with transporting rural produce to a city from farther away.

Rising land prices on the city's fringe therefore have the effect of marginalising financial returns of agricultural production. Australian and international experience has identified four principal forms of financial incentive to overcome the growing cost of farming in close proximity to a mega-city.

- i. Density bonuses;
- ii. Purchase of Development Rights;
- iii. Transfer of Development Rights; and
- iv. Council rate rebates driven by differential rating for rural property or a subsidy paid by the State or Commonwealth government. It is estimated that charges of between 10% and 25% of the current rate are needed to support rural producers adjacent to a large city.

For the range of reasons outlined above, Australian cities affected by sprawl should form a border beyond which is the city's agricultural and green zone. Further growth should be in increased densities to facilitate the viability of public transport, or to rural areas, bringing new life to our ailing country towns.

3.2 Measures to reduce the environmental, social and economic costs of continuing urban expansion.

There are a number of ways to reduce the environmental, social and economic costs of urban expansion. Solutions to contain urban expansion without fuelling housing prices by limiting supply include:

- i. Providing more affordable housing in accessible locations. Landcom's moderate income housing program is an example of such an initiative (Landcom, 2003). The City West development in Ultimo/Pymont is also a good example.
- ii. Creating market incentives for buyers to purchase sustainable buildings. Special mortgage products such as the location efficiency loan offered by Fannie May in the US, the Bendigo Bank's green home loan and the Maleny Credit Union (MCU) ECO Home Loan have been designed to encourage the construction of environmentally friendly housing or the retrofitting of existing housing to make them less environmentally

damaging. These products are based on the principle that reduced operating costs increase the borrower's ability to pay, hence lowering the financial risk to the lender (Edkins, 2003; Bendigo Bank, 2003);

- iii. Promote urban consolidation as a more favourable lifestyle alternative through education and model developments (e.g. Green Square, Sydney) with provisos for biodiversity; and
- iv. Change the government funding of urban development infrastructure to reveal the true cost of building greenfield estates on the fringe. New roads should be provided on a user pays basis rather than subsidised, as is currently the case (Smart Growth, 2003) and the government should invest in public transport to these areas to foster habitual use from the time of the first inhabitants. If public transport is not there from the first, residents form a culture of private vehicle dependence which is almost impossible to change.

3.3 Mechanisms for the Commonwealth to bring about urban development reform and promote ecologically sustainable patterns of settlement.

To progress changes in corporate governance that favour investment in sustainability, the Commonwealth should remove barriers to ecologically sustainable patterns of settlement. A report for the Sustainability Advisory Council examining barriers to mainstreaming sustainable development, revealed that progressive investment companies and developers are starting to see ESD as an essential business strategy (ISF and Sphere Properties, 2002). Changes to project financing are needed to internalise some of the long-term costs of urban developments for developers, such as investing in insulation, AAA appliances and urban renewal. At present bad decisions and bad design are born by the residents and government in terms of comparatively higher transport costs, energy and water inefficiencies and social problems associated with isolation and excessive debt.

Urban development reform should also involve rural development reform. A contributing factor to the problem is that major Australian urban centres continue to receive the greatest influx of people. This trend needs to be reversed through targeted Commonwealth investment to revitalise regional centres. Such investment will reduce the pressure on urban centres, allowing them the breathing space to plan how to develop in a more sustainable way.

4. REFERENCES

- Australian Computer Society (2003) [Online] Available: http://www.iss.net.au/pc_rec_sig/
- Alternative Waste Management Technologies and Practices Inquiry [AWMTPI] (2000). *Report of the Alternative Waste Management Technologies and Practices Inquiry*. Prepared for the State Government of NSW.
- Australian Bureau of Statistics [ABS] (2002). *4602.0 Australian environmental views and practices*. Available electronically <http://www.abs.gov.au/Ausstats/abs@.nsf/0/352f4bfe388f73e0ca256c8600754970?OpenDocument>.
- Australian Bureau of Statistics [ABS] (1998). *Australian Social Trends 1998. People & the Environment - Use of Resources: Household energy use*. Available electronically <http://www.abs.gov.au/Ausstats/abs@.nsf/Lookup/1DDF10C29E1C558ACA2569AD000402D6>.
- Australian State of the Environment Committee [ASEC] (2001a). *Australia State of the Environment 2001 - Independent Report to the Commonwealth Minister for the Environment and Heritage*. CSIRO Publishing, Collingwood Victoria.
- Australian State of the Environment Committee [ASEC] (2001b). *Australia State of the Environment 2001 - Human Settlements Theme Report*. CSIRO Publishing, Collingwood Victoria.
- Australian and New Zealand Environment and Conservation Council [ANZECC] (1996). *The National Packaging Covenant*. Available electronically at <http://www.packcoun.com.au/NPC.htm>.
- Australian Industry Commission [AIC] (1991). *Recycling, Volume 1: Recycling in Australia*. Australian Industry Commission Report No. 6, Australian Government Publishing Service, Canberra.
- Australian State of the Environment Committee [ASEC] (2001a). *Australia State of the Environment 2001 - Independent Report to the Commonwealth Minister for the Environment and Heritage*. CSIRO Publishing, Collingwood Victoria.
- Australian State of the Environment Committee [ASEC] (2001b). *Australia State of the Environment 2001 - Human Settlements Theme Report*. CSIRO Publishing, Collingwood Victoria.
- Australian Urban and Regional Development Review [AURDR] (1995). *Green Cities Strategy Paper No. 3*. Department of Housing and Regional Development, Canberra.
- Banfield K, Hutabarat R and Diesendorf M (1999) Sydney's Passenger Transport: Accounting for Different Modes. *Papers of the 23rd Australasian Transport Research Forum* 23:269-285.
- BASIX (2003) *Draft Building Sustainability Index*. Department of Infrastructure, Planning and Natural Resources.
- Commonwealth of Australia (2001) *Your Home : design for lifestyle and the future. Technical manual*. Australian Greenhouse Office, Canberra
- Bendigo Bank (2003) [Online] Available: www.bendigobank.com.au/public/,
- Drechsel, P., Olufunke, O.C. & Danso, G. (2002). "Closing the rural-urban nutrient cycle?". In *id21 Insights - communicating development research, Issue 41*. Available electronically <http://www.id21.org/insights/insights41/insights-issu01-art05.html>.

Edkins, L, (2003), Personal Correspondence with Louise Edkins, director of Eco-Logical Investment Services', *Ethical Investor*, 19 March 2003.

EIDN (2003) *Collection and Transport of Sewage by Vacuum Technology*. Environmental Industry Development Network Available electronically: <http://www.eidn.com.au/Airvac.htm>

Environment Business Australia [EBA] (2002). *Accessing the Embodied Value of Australia's Natural Capital – Draft discussion paper, land and water management*. Available electronically <http://www.environmentbusiness.com.au/Land%20and%20water%20draft%20%2016.11.2.pdf>.

Fannie May (2003) [Online] Available: <http://www.fanniemaefoundation.org/>

Greenweb (2003) [Online] Available: <http://www.greenwebsydney.net.au/index.cfm>

Hill, R. (1998). "Hill Welcomes Greenhouse Praise". Media Release, Senator the Hon Robert Hill. Available :<http://www.deh.gov.au/minister/env/98/mr10nov98.html>.

Hutabarat R, Banfield K, Gollner A & Diesendorf M (1999) Social Sustainability in Passenger Transport. Proceedings of the Australasian Environmental Engineering Conference, Auckland, NZ

ISF and Sphere Properties (2002) *Developing Strategies for Mainstreaming Sustainability*. Prepared by ISF and Sphere Properties on behalf of the Sustainability Advisory Council.

Laird (1999) Interstate Rail and Road Investment and Access Pricing, *Australian Transport Research Forum Conference, Perth, October, p27-42*.

Landcom (2003) *Moderate Income Housing Policy* [Online] Available: <http://www.landcom.nsw.gov.au/landcom/nsw/me.get?site.home>

McCann B & Ewing R (2003) *Measuring the Health Effects of Sprawl. A National Analysis of Physical Activity, Obesity and Chronic Disease*. Smart Growth Australia, Surface Transportation Project. Washington DC.

Newman P (2000) *A Proposal for Restructuring the Funding of Transport in Australia*. Discussion Paper, Murdoch University, Perth.

Nolan-ITU & Sinclair Knight Merz (2001). *Independent Assessment of Kerbside recycling in Australia*. Prepared for the National Packaging Covenant Council.

NSW Agriculture (2003) *Value of Agriculture in the Sydney Region*, Environmental Planning and Management Sub Program, NSW Agriculture, Orange.

NSW Environment Protection Authority (2000a). *NSW State of the Environment 2000 – Human Settlement Backgrounder*. The EPA, Sydney.

NSW Environment Protection Authority (2000b). *NSW State of the Environment 2000 – Report*. The EPA, Sydney.

NSW Environment Protection Authority (2001). *Review: Waste Minimisation and Management Act 1995*. The EPA, Sydney.

Planet ARK (2002). "Plastic Bag Levy Bills to be Introduced This Week". Media Release 23/9/02, available electronically <http://www.planetark.org/media/PlasticBagBBrownRelease.pdf>.

Parry (2003) *Interim Report: Ministerial Inquiry Into Sustainable Transport in NSW*. NSW Government, Sydney.

pcrecycling (2003) [Online] Available: <http://www.pcrecycling.org.au/>

Planet ARK (2003). "Australian Town Bans Plastic Check-Out Bags". Media Release, available electronically <http://www.planetark.org/products/ColesBayUKMR.pdf>.

Robins, N. & Roberts, S. (1998). "Unlocking Trade Opportunities". In *ILEIA Newsletter, Dec 1998*. Available electronically <http://ileia.test.kolibrie.net/2/14-4/14-4-10.pdf>.

Renewables Target Working Group (1999). *Implementation Planning For Mandatory Targets For The Uptake Of Renewable Energy In Power Supplies*. Final Report of the Renewables Target Working Group. Available electronically <http://www.greenhouse.gov.au/markets/mret/rtwg/index.html>.

South Sydney Development Corporation (2003) *Green Square Rating Scheme* [Online] Available: <http://www.greensquare.com.au/GSTC/document.asp?pageid=339>

Smart Growth (2003) [Online] Available: http://smartgrowth.net/Home/sg_Home_fst.html

Sydney Water (1998) *Sydney Water Sewage Overflow Licensing Project Environmental Impact Statements*.

Travers Morgan (1992). *Report of the Study of the Economics of the Solid Waste Management Industry in Sydney*. Travers Morgan, Sydney.

White, S. (2001a). *Independent Review of Container Deposit Legislation in New South Wales – Final Report Vol I*. Prepared for the Hon Bob Debus, MP, Minister for the Environment.

White, S. (2001b). *Independent Review of Container Deposit Legislation in New South Wales – Final Report Vol II*. Prepared for the Hon Bob Debus, MP, Minister for the Environment.

Woodcock S and Jha M (2003) *Water Wise Options for Great Lakes Council*. Prepared by the Institute for Sustainable Future on behalf of Great Lakes Council

Woodcock S and White S. (2002) *Sustainable Water Use BDP Environment Design Guide*, Royal Australian Institute of Architects, Melbourne.