Submission to Inquiry into Sustainable Cities 2025 House of Representatives Standing Committee on Environment and Heritage

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SUMMARY

The increase in population and the recent property boom in Australia have had a major impact on urban expansion. Cities such as Melbourne and Sydney are experiencing significant growth in new urban development and redevelopment in established suburbs. Without significant change to future planning for our cities, Australia faces a number of problems including increasing pollution and health risks and difficulty in and providing adequate amenities such as public transport.

Engineers Australia has over 70,000 members Australia wide, many of whom work in areas relating to urban development. Sustainability is a major tenet of Engineers Australia's code of ethics and our members view sustainable development as fundamental to our cities future growth.

This submission will consider options for sustainable urban development in the areas of, transport and building development and water management. It will also discuss Melbourne's sustainable city plan, *Melbourne 2030.*

SUSTAINABLE TRANSPORT DEVELOPMENT

Sustainable transport development is important to future planning of urban areas. Engineers Australia's publication *Sustainable Transport Responding to the Challenges* outlines several measures that can contribute to sustainable cities development.

- Make the early identification of future public transport corridors a priority in transport planning.

- Encourage the development of integrated transport networks to provide better links between the different nodes of public transport, such as trains, buses and trams.

- Place priority on the need for industry, innovation and research and development policies and commitments that support the development of cleaner transport fuels and technologies.

- Consider options for additional charges or taxation that reflects the level of greenhouse gas emissions produced by private transport, such as congestion pricing.

- Consider comparative energy consumption and greenhouse gas emissions when assessing competitive transport project proposals.

The *2003 New South Wales Infrastructure Report Card* states that funding for urban rail development is the responsibility of State and Territory governments. The Federal government provides funding for roads of national importance and freight rail.

Engineers Australia believes that the Federal Government should increase funding for for urban public transport through the Auslink program. Auslink is a Federal

Government green paper that outlines plans for future transport development in Australia. Further investment by the Federal government in urban public transport will assist with sustainable city development.

SUSTAINABLE BUILDING DEVELOPMENT

Engineers Australia's publication *Sustainable Energy Innovation in the Commercial Building Sector* makes several recommendations to the Federal Government for sustainable building development.

- *Professional development*– The Australian Building Codes Board (ABCB) provides some training programs on new energy efficiency measures. However, the Federal Government could provide funding for additional training programs for engineers and other professionals working in the building and energy sectors on sustainable development for commercial and residential dwellings. The aim of these programs will be to assist with the development of procurement and building practices that take account of energy efficiency and greenhouse gas emissions throughout the process of residential and commercial building development.

- *Monitoring standards*. – The Federal Government should facilitate the introduction of national energy and greenhouse auditing for all new and existing residential and commercial buildings. This will help determine the amount of energy used in buildings, the level of greenhouse gas emissions and the effectiveness of government programs in encouraging sustainable building development.

- *Funding for R&D* – The Federal Government needs to increase research and development funding to encourage innovation in sustainable residential and commercial building design. This can help determine which sustainable housing designs could be affordable and appropriate for different regions. There are already a number of examples of innovation in the sustainable building design including the Australian Conservation Foundation building in Melbourne and the *Sustainable House* in Sydney.

- *Incentives for best practice* – Through the Council of Australian Governments, the Federal Government should encourage State and Territory governments to provide incentives for best practice in sustainable building design such as special subsidies for building materials.

- *Solar Hot Water Heating*- The Federal Government could encourage State and Territory governments to provide more incentives for the installation of solar hot water in residential dwellings. Solar hot water is well established in Australia and is more energy efficient than electric or gas hot water systems.

- *Encouraging further renewable energy development* – The Federal Government should encourage the development of *Greenpower* programs in each State and Territory. *Greenpower* helps to raise demand for renewable energy by giving domestic and commercial users the choice of buying their power from renewable energy sources. The Federal Government could also increase the Mandatory

Renewable Energy Target to 10%, which would further encourage renewable energy development.

SUSTAINABLE URBAN WATER MANAGEMENT

Sustainable urban water management involves applying demand management to restrict the amount of water used by community and industry. Reducing the demand for water in urban centres can help restrict damage to rivers and waterways and defer the need for new dams to be built. Engineers Australia supports initiatives in demand management including:

- *Wastewater (sewerage) management* - According to the *2001 Australian Infrastructure Report Card*, less than 10% of wastewater generated in cities and towns in Australia is recycled. Most of the water used is discharged into waterways, rivers or direct into the ocean. Some State Governments are already considering options for recycling wastewater. The Victorian Government has set a 20% recycled water target for 2020. The report card further states that applying targets such as this on a wide scale will depend on the implementation of guidelines that allay public concerns over water borne diseases There is currently a lack of uniformity in State and Federal guidelines governing wastewater management.

  The other major problem with wastewater management is the deterioration of infrastructure. The report card states that all levels of government are not providing enough funding for maintaining wastewater infrastructure such as sewerage outflows. This could cause environmental damage to local waterways and impact on water quality.

- *Greywater management*– Greywater consists of water reused from bathroom, kitchen and laundry, with the exception of toilet water. Only limited reuse of greywater currently occurs in Australia. This is mainly because of the potential impacts of greywater on the environment including the build up of nutrients and damage to plants and soils because of chemical detergents. Greywater is also used to break down sewerage sludge. This means that extensive reuse could impact on the passage and distribution of sewerage. Further research needs to be conducted into the viability of recycling greywater and the impact this will have on the environment.

- *Stormwater management* – State and local governments are encouraging the use of water tanks for residential developments that can be reused for gardens and toilet flushing. Several local councils in NSW have made the installation of rainwater tanks compulsory for new residential developments. The Federal Government needs to encourage State and Territory governments to expand the use of stormwater tanks in urban areas.

- *Water saving technology* – According to the Federal Senate report *The Value of Water: Inquiry into Australia's management of urban water* there a number of water saving devices that are being developed including water saving showerheads, dual flush toilets, flow regulators for taps and showerheads and water saving dishwashers and washing machines. With the exception of dual

flushing toilets, water saving technology has not been applied on a wide scale in residential and commercial building developments. The Federal Government needs to encourage the development of water saving technology through innovation grants and working with State and Territory governments to provide subsidies for water saving technology.

- *Water efficient gardens* – Gardens represent the single largest consumer of water in urban residential areas. Water sensitive garden designs involving paving instead of lawns, garden mulching and using native plants that use less water are just some of the ideas being put forward by State and Territory Governments to encourage residential home owners to develop sustainable garden design.

Other initiatives that could help reduce demand include reviewing water pricing and making some existing water restrictions permanent. Both these areas will require more consideration, particularly because of the impact on of these changes on local communities and the economy.

Engineers Australia believes that the Federal Government can encourage better urban water management through the National Water Initiative. The National Water Initiative is a new agreement signed by the Council of Australian Governments (COAG). It aim is to coordinate sustainable management of Australia's rural and urban water supplies. New targets for urban water management could be established through the initiative, to encourage water reuse and recycling and maintaining water infrastructure in cities.

SUSTAINABLE URBAN DEVELOPMENT – THE MELBOURNE 2030 PROGRAM

According to the Victorian Government, Melbourne's population is likely to grow by another 1 million people with over 620,000 new households within 30 years. The *Melbourne 2030* program attempts to establish a holistic approach to sustainable urban planning through a number of measures including, reducing energy and water consumption in urban dwellings, improving intermodel public transport links and creating conservation areas within existing urban areas.

It also outlines the development of neighbourhood activity centres that consolidate local business and community activities in one location. This is aimed at reducing the number of private vehicle trips required for different activities such as sport, childcare and health care. Medium density housing can then be built around the activity centres to encourage further urban consolidation and reduce the need for private vehicle transport.

Apart from this, *Melbourne 2030* has established the Urban Growth Boundary (UGB) that sets a limit for long term urban development in Melbourne. Land outside of this boundary is designated for conservation, agriculture, resource development and infrastructure development such as water supply and sewerage treatment facilities. The aim of the UGB is to restrict urban expansion that places increasing pressure on existing infrastructure.

Engineers Australia believes that the Federal Government should encourage other States and Territories to adopt programs such as *Melbourne 2030* through the Council

of Australian Governments (COAG). Specific plans could be developed for all the major cities in Australia that incorporate aspects of sustainable development in future planning and management of infrastructure.