

SUBMISSION COVERSHEET

Submissions may address any key issues related to the Infrastructure Australia agenda and/or in specific response to the topics raised in the discussion papers.

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Please indicate if your submission:

contains NO confidential material.

Please indicate which of the following your submission covers:

Issues Paper 1 — Australia's Future Infrastructure Requirements

AND/OR

General (Includes information on the following areas)

Water Infrastructure

Transport Infrastructure

Energy Infrastructure

Climate Change

Infrastructure Investment

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Canberra Business Council Submission to Infrastructure Australia

Canberra Business Council (CBC) is the leading business organisation in the Australian Capital Territory and Capital Region. It is committed to economic development and sustainability of the ACT and Capital Region. Canberra Business Council, directly through its large individual membership and indirectly through more than 35 affiliated industry organisations known as Kindred Organisations, represents more than 5,000 businesses across the Capital Region which includes Canberra and the major regional centres of Queanbeyan, Goulburn, Yass, Cooma, Bega, Bateman's Bay and Braidwood. In 2007 the Council entered into an affiliation arrangement with the NSW Business Chamber which represents over 30,000 businesses in NSW and connects over 100,000 businesses across Australia through the State and Territory Chamber Network.

Canberra Business Council is actively involved with the community and Government in influencing policy and developing programs that support the sustainable development of the ACT and the region. Many of these programs are of national significance, taking place as they do in the National Capital of Australia. With this in mind Canberra Business Council wishes to draw the following infrastructure projects to the attention of Infrastructure Australia for positive consideration in drawing up a list of infrastructure priorities for Australia.

In identifying these projects for inclusion in the Infrastructure Priority List, Canberra Business Council is mindful of the need for vision and leadership – a vision for all of Australia and the leadership to lay foundations for the prosperity and security of the generations that will come after ours.

Australia's National Capital is coming of age. In just a few years the city will be 100 years old. This is a city that reflects, represents and celebrates the nation. It is a city that through the next century will provide Australians with a stronger focus for their national pride. The projects that follow will not just support the development of a city but the development of a nation.

1. A High Speed Rail Link between Canberra and Sydney

High speed rail refers to passenger trains travelling at 250km/h or more, on purpose-built tracks. Among the best known examples are the Japanese Shinkansen or bullet trains, the French TGV (Train à Grande Vitesse) and the German ICE (Inter-City Express). The typical operating speed of high speed trains has increased to 300km/h, and speeds of 350–360km/h are in prospect.

The energy required for operation at such speeds means that high speed trains are invariably powered by electricity. Although high speed rail systems are focused primarily on the movement of people, they are being used increasingly for freight, and this will grow in the future.

High speed rail has an outstanding safety record. Since the start of operations in Japan in 1964, there has not been a single fatality or a serious injury in an accident on a high speed train.

This is a major physical infrastructure project of national significance

Why is this project important?

This project is about the future of intercity travel in Australia. Air travel has for some time replaced rail as a long haul travel option in Australia. But the world is changing and security, the environment and resource costs are all aligning to point to High Speed Rail as the transport system for a future Australia. Since the ending of Australia's last high speed rail project investigations in 2000, many changes have occurred which suggest that this form of transport should be re-examined. This section discusses reasons why high speed rail should be reconsidered for Australia at this time when the benefits of underwriting our future with vital infrastructure are being examined so closely.

- **Changes in high speed rail technology, competitiveness and supply over the past decade**

Speeds are increasing. A record of 575km/h was set by a French TGV in April 2007. This speed was achieved by a train which could operate on the tracks of the Sydney metropolitan network – necessarily at much lower speeds.

Commercial speeds have increased. Trains in France now run routinely at 320km/h. On the recently-opened line from Madrid to Barcelona an operating speed of 350km/h is expected. Plans are being made in France to lift everyday speed to 360km/h.

These speed increases, together with increasing congestion at airports and longer processing times for travelers as a result of security measures, mean that high speed rail is competitive for longer journeys than before. Previously, a journey time of three hours by rail was considered the upper limit in competitive terms. Now, experience in France is that, of rail and air travel, high speed rail captures 90% market share for rail journeys of two hours; 66% at three hours; and 45% at four hours. For leisure travel, high speed rail attracts a significant market share on journeys up to six hours.

More suppliers of high speed train technology have entered the market, adding to competition and lowering costs. The list of manufacturers currently includes Alstom (France); Siemens

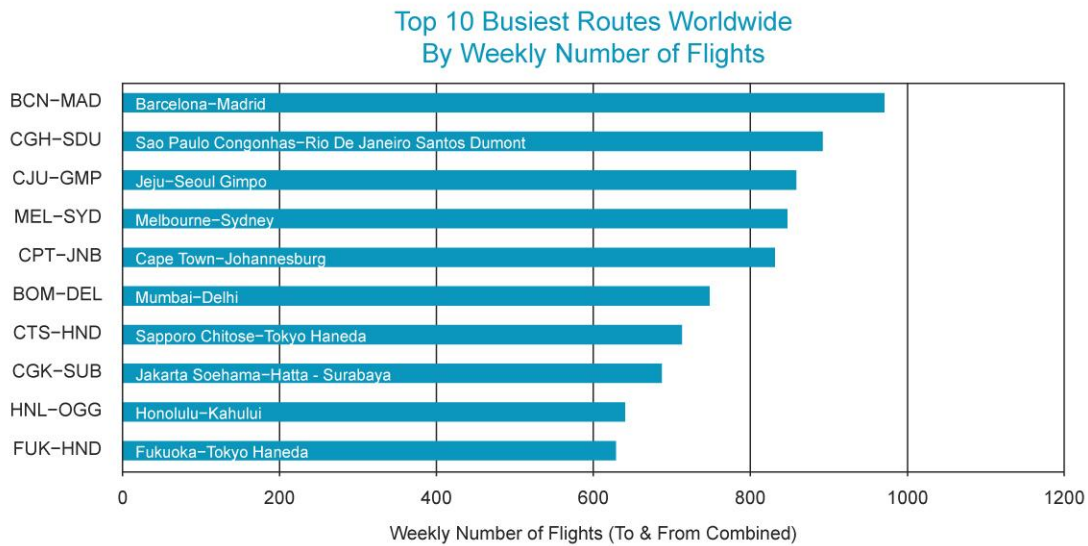
(Germany); AnsaldoBreda (Italy); Talgo (Spain); Rotem (Korea); Hitachi, Kawasaki and others (Japan); and Bombardier (international).

- **Travel demand on the east coast**

It is sometimes claimed that Australia “does not have the population for high speed trains”. Such a statement is irrelevant: what matters is travel on specific routes.

Sydney – Melbourne has the fourth busiest air service in the world, with some 70 flights each way per day between the two cities. The only busier routes are between Madrid and Barcelona, Sao Paulo and Rio de Janeiro, and Jeju and Seoul.

The ranking of the world’s busiest air routes as at September 2007 is shown in the following table.



Source: OAG (Official Airline Guide)

Sydney–Brisbane is also a busy air route, ranking seventh in the Asia–Pacific region. In the same corridor, travel between Sydney and the Gold Coast could be added to the Sydney–Brisbane figure.

The level of travel on these routes is a clear indication of the potential for the use of high speed rail in Australia. A route which linked Melbourne and Sydney via Canberra, and Sydney and Brisbane via Newcastle and the Gold Coast; would link these major cities but further, through the provision of additional ‘stopping’ trains, would serve regional centres such as Benalla, Albury/Wodonga, Wagga Wagga, Goulburn, the NSW Central Coast, Taree, Coffs Harbour and Grafton.

- **Increased economic standard of living for Australians**

High Speed Rail travel will provide Australians with a more cost effective intercity rail service. Trains are becoming faster, making routes such as Melbourne to Sydney via Canberra, and Sydney to Brisbane via Newcastle and the Gold Coast, each with three hour travel times, well within the competitive distance for high speed rail. More suppliers of high speed train technology have entered the market, adding to competition and lowering costs.

- **Use for freight**

As indicated above, high speed rail systems are focused on the movement of people. However they are also being used increasingly for freight. This ranges from use of the high speed tracks by conventional freight trains, where gradients permit (in Germany and Italy, for example), to the operation of dedicated freight trains at the same speed as passenger trains. The latter is the case with the postal TGV trains in France. This activity is soon to be substantially increased as the first step in an initiative entitled Cargo Rail Express which will see a major expansion of high speed freight services in Europe. Partners in this project, which is included in the European Union Logistics Action Plan, include Paris Charles de Gaulle airport, Amsterdam Schipol airport, FedEx, TNT and the French National railways; see <http://www.spiegel.de/international/business/0,1518,534978,00.html>

An Australian high speed rail network could carry freight on either of these two bases (i.e. use of the tracks by conventional freight trains or by high speed freight trains); or the high speed alignment could provide, again where gradients permit, a route for an independent freight track, improving existing main lines by reducing their length and curvature.

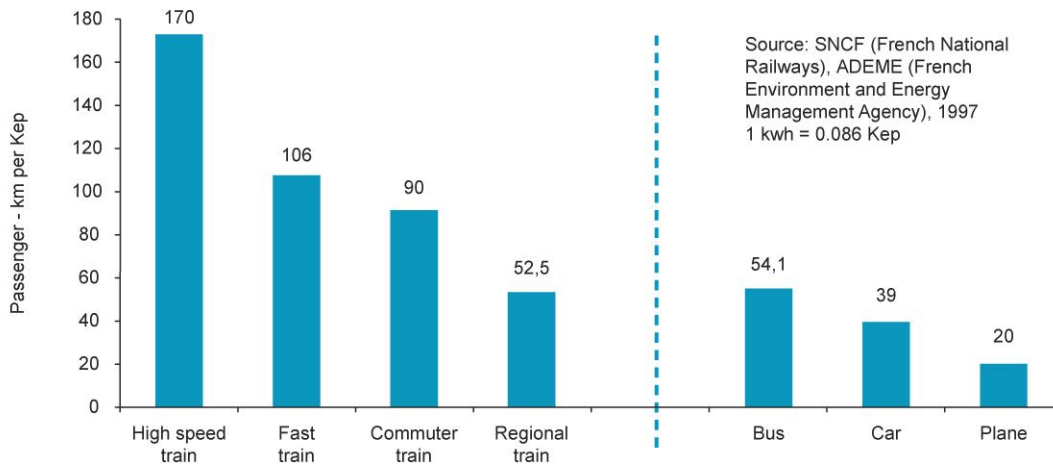
- **Environmental sustainability and reduced greenhouse gas emissions**

High speed rail is a more climate-friendly way of travelling that greatly reduces carbon dioxide emissions compared with alternative modes. It is much more energy-efficient and, being electrically powered, has the potential to draw energy from renewable sources. High speed trains are enjoying success around the world because they compete very effectively with air travel for journeys up to about 1000km, and with car travel for trips longer than about 250km.

- **Energy efficiency**

Since 2000 when high speed rail development ceased in Australia, the price of energy has risen sharply and these increases show no sign of abating. High speed rail is more efficient in its use of energy than competing modes of transport, as shown in the following diagram:

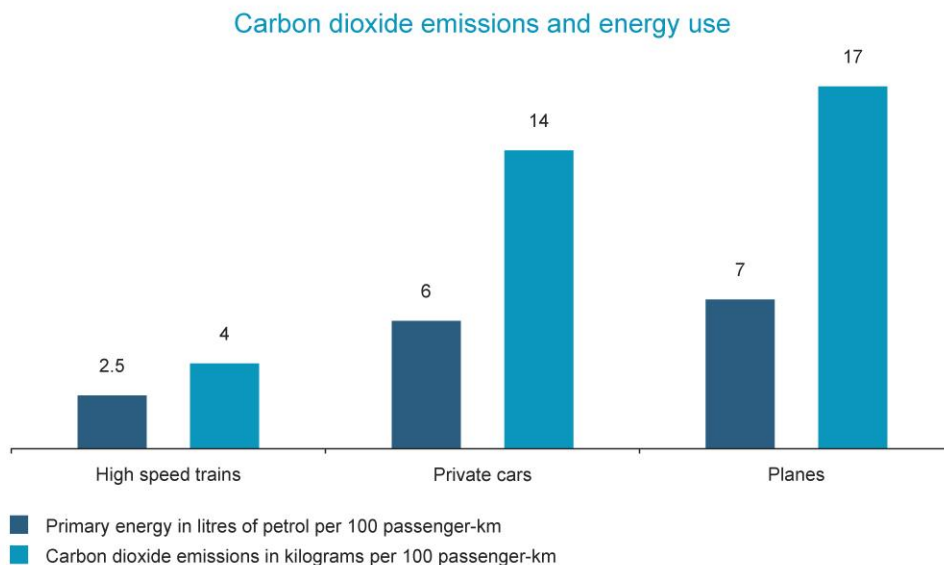
Energy Efficiency per Passenger



- **Climate change**

Climate change is a major issue across the globe. High speed rail compares very well with competing modes in terms of carbon dioxide emissions, as shown in the following diagram, which also shows a comparison of primary energy use.

Carbon dioxide emissions and energy use



The carbon dioxide emission figures in this diagram are based on the situation in Europe: Australia's near-total reliance on coal for the generation of electricity would suggest that emissions by high speed trains in Australia would be higher than shown. However, being electrically powered, high speed trains have the potential to draw their energy from renewable sources. For example, Belgium is to build 20 wind generators alongside its second high speed line. They will produce more than the energy requirement for that section of line. In Australia the potential exists for high speed trains to be powered by new gas-fired generators which would also feed into the national grid, with supplementation from solar thermal and/or wind power generation.

- **Better social outcomes, quality of life, and reduced social disadvantage**

Regional centres such as Benalla, Albury/Wodonga, Wagga Wagga, Goulburn, the NSW Central Coast, Taree, Coffs Harbour and Grafton would benefit from better access to capital cities. The prospect that a high speed rail system could carry freight is another significant potential benefit. Rail travel is less inclined to security and administrative problems than air.

What are the problems?

The demand for travel between Melbourne and Sydney – the world's fourth busiest air route; and between Sydney and Brisbane, seventh busiest in the Asia/Pacific region – suggest that a high speed rail service is overdue. Airport congestion is increasing because of the need for increased security at airports. Environmental impacts of air travel are high. Road traffic is increasing and road safety is an ongoing concern. Existing rail services are underutilised mainly due to the relative travelling time.

What are the impacts of these problems?

Governments are incurring high infrastructure maintenance costs and potentially high new airport and road infrastructure project costs. There are social and environmental impacts flowing from overuse of air travel including noise, air pollution and social amenity. Fuel costs are high, impacting on business and individuals.

How might these problems be addressed?

Canberra Business Council is strongly of the belief that a national high speed rail network will take the pressure off air and road services.

High speed trains are enjoying success around the world because they compete very effectively with air travel for journeys up to about 1000km, and with car travel for trips longer than about 250km. They have an outstanding safety record and are environmentally friendly.

Canberra Business Council believes that developments over the past decade suggest that it is time Australia re-examined the case for high speed rail as a major east-coast infrastructure project that would be of national significance

Given the situation, what should be done first?

Brisbane–Gold Coast–Newcastle–Sydney–Canberra–Melbourne is a corridor whose distances and travel demand are well suited to high speed rail. The Council believes that Sydney–Canberra (with a terminal at Canberra airport) remains the logical first step in a larger network. The distance, 270km, is suitable for high speed rail. A Sydney–Canberra high speed rail would effectively make Canberra International Airport a second airport for Sydney.

The next step should be a scoping study to consider and examine:

- The most appropriate staging of high speed rail on the Melbourne/Canberra/Sydney/Newcastle/Brisbane corridor;
- Financing options including the roles of the public and private sectors. As stated earlier, high speed rail stalled in Australia because there was not a clear understanding between the public and private sectors on what their respective funding contributions should be. The range of financing models used overseas should be examined;
- Structuring options: a range of approaches is available, including awarding a build–and–operate concession to a single entity, or ownership of the fixed infrastructure by the Government’s existing track owner, the Australian Rail Track Corporation with open access by operating companies. Other options are possible. Given that the network will be built in stages, an ‘open system’ approach should be specified so that trains built by a variety of operators can run on it.
- In conducting the scoping study, the Government should invite submissions from interested parties as input to its analysis. The project should ultimately be market driven (rather than technology driven); there is no point in specifying a project for which a strong business case cannot be developed. The study should consider options for powering the system from gas–fired generators supplemented by renewable energy sources; such developments could be an integral part of the system.
- While the issue of freight will primarily be a matter for the market, the study should consider to what extent high speed rail can contribute to the freight task, and can complement or contribute to the improvement of the existing interstate main line network.

Following the scoping study, the Government would be in a position to indicate a preferred first stage of the network and the key parameters for its financing; and to call for Expressions of Interest in its development. The Government may wish to specify an ownership structure, or it may wish to invite proposals from bidders; a key requirement, as indicated above, will be an ‘open system’ approach so that competition is maximized, both for operation of the first stage and for the development of further stages. By following this course, Australia will join the many countries around the world which are gaining the transport, energy efficiency and environmental benefits of high speed rail.

2. Light Rail for Canberra

Canberra Business Council has partnered with the Conservation Council to make the case for a Light Rail network in Canberra. The partnering of these two organisations demonstrates the wide-spread support that Light Rail receives across the entire spectrum of community interest groups. A proposal to introduce Light Rail to Canberra is opportune.

Infrastructure Australia is particularly interested in funding landmark, iconic projects that will benefit Australian communities for generations to come, and that will gain international recognition for innovation, efficiency and improving quality of life. A submission for Light Rail for Canberra would meet these criteria. The following discusses this project within the framework outlined in the discussion paper.

This project is a Physical Infrastructure Project within the three infrastructure options nominated by Infrastructure Australia

Why is this project important?

- **Increased economic standard of living for Australians**

Light Rail is an ideal solution to Australia's urban transport problems. It provides a reliable, clean, climate-friendly way of commuting that breaks people's dependence on cars and supports development. Rail corridors develop nodes of commercial and retail services, providing opportunities for higher density housing and reducing pressure on city edge development. It would be considerably cheaper to provide Light Rail in Canberra than in any other Australian city, as the Griffin Plan provides the planning infrastructure such as wide roadways, to support its installation. There are open space corridors across the city and major arterial roads have medians or parallel corridors that allow for rail development.

- **Environmental sustainability and reduced greenhouse gas emissions**

Canberra is now facing the real possibility of serious traffic congestion and parking problems. Concerns about climate change and greenhouse gas emissions have led the Canberra community to look for a new and re-invigorated public transport system. Motor vehicle dependence in the ACT is far greater than in other jurisdictions and moving from this dependence will require viable and attractive options in order to meet targets for carbon reduction.

- **Better social outcomes, quality of life and reduced social disadvantage**

A Light Rail system would provide better living options and encourage relocation from the continuing social and economic stress that the urban sprawl of Sydney, Melbourne and SE Queensland is generating. Small cities have LRT systems in Europe, Asia and North America.

Sample of Medium to Small Cities with LRT Systems

CITY	SIZE OF NETWORK	POP (million)
Edmonton	14 km	0.9
Calgary	29 km	0.9
Zurich	109 km	0.8
Karlsruhe	62 km	0.6
Geneva	11 km	0.5
Grenoble	20 km	0.4
Graz	41 km	0.3
Freiburg	26 km	0.3

What are the problems?

Canberra is a fast-growing city, and as the city grows in both geographic size and population, pressure will continue to build for better public transport services. As petrol prices continue to rise, more and more people will prefer to live closer to the centre of Canberra and its major suburban centres in order to reduce their fuel costs. This will result in even higher population density across Canberra and around the major suburban centres, which had been steadily growing in population density before the recent spike in oil prices. As the city develops and its population and population density grow, a transport system able to carry more Canberrans and that complements the current bus system will become a necessity.

What are the impacts of these problems?

The ACT Government's *Canberra Spatial Plan* identifies a potential need for between 58,000 and 90,000 additional dwellings, of which 90% would be contained within 15km of the city centre, and 50% concentrated within 7.5km of the centre within the next 15 years. The development of areas in and around Civic will require additional transport services. Higher densities of residents and places of employment will reduce the cost of providing public transport to these areas.

How might these problems be addressed?

Light Rail will complement the growth of residential developments across the ACT, providing a modern, high frequency service which can be expanded over time as required. New urban developments such as the Molonglo development could be established around Light Rail hubs to provide easy, quick, efficient, relatively inexpensive access to the city and other town centres for work, education and play.

Given the situation, what should be done first?

Efficient urban transport is a national problem. Rapid transit systems are the future and the roll-out of a network of integrated systems based on a model developed in a city that is designed for the future will provide technological and systems management solutions for the future of transport across Australia. In Canberra the network should be introduced gradually over an extended period, but it is essential that the project begin with a plan that provides a complete network for the city as it will develop during this century.

3. Roads into the national capital

This is a physical infrastructure project of regional significance.

Why is this project important?

- **Increased economic standard of living for Australians**

Canberra is the major regional city in the region covering the ACT, Southern Highlands, Southern Tablelands, Snowy Mountains, the Riverina and NSW South Coast. The road system that provides links within and to this region is a major factor in the economic health of the region. Canberra provides services to a regional population of around one million. There are growing numbers of leisure and business visitors arriving by road and at Canberra International Airport and travelling to surrounding regions in NSW.

- **Better social outcomes, quality of life, and reduced social disadvantage**

These major arterial roads to and from Canberra are used by an increasing number of workers and school children commuting between Canberra and surrounding regions outside the ACT including Queanbeyan, Yass, Cooma and Goulburn. They are also used by regional residents accessing health and community services in the ACT.

What are the problems?

These roads are not only the major routes from Melbourne and Sydney; they link eastern Victoria, the far south coast of NSW and the Snowy Mountains region to Goulburn and, via the Hume Highway, Sydney. The roads are not sufficient for the task, creating potential safety issues, impacting on the regional economy and decreasing social amenity.

What are the impacts of these problems?

The impacts are economic and social. Canberra is, by default, a service provider to regional NSW. The social impact is on the quality of access to services for those rural residents. The economic impact is on the economy of Canberra and the region through a diminished commercially competitive access to the National Capital.

How might these problems be addressed?

The Canberra Business Council recommends that all roads linking the national capital with the surrounding region—and particularly the Monaro, Barton and Federal Highways—be designated as roads for which the Commonwealth bears responsibility. This is a major physical infrastructure project of national significance and appropriately links the National Capital to the national road network.

Given the situation, what should be done first?

Canberra Business Council recommends an early completion of the Barton Highway upgrade as part of the National Highway system and duplication of Majura Rd from Pialligo to the Federal Highway. The construction of the Majura Parkway would play an important role in any future development of the Canberra airport as a freight hub, as well as delivering significant benefits to local road-users and road freight on the Monaro and Federal Highways.

4. Water Security

This is a physical infrastructure project of regional significance.

Why is this project important?

- **Increased economic standard of living for Australians**

Securing the ACT's water supply into the future is inextricably connected to Canberra's ability to attract more people and in particular, more skilled workers to live and work in Canberra.

- **Environmental sustainability and reduced greenhouse gas emissions**

Canberra has for a long time had a close relationship with the regional ecology. Water is an important consideration and lack of storage to service consumption can and will impact on the health of our water resources.

- **Better social outcomes, quality of life, and reduced social disadvantage**

Infrastructure to support a larger population, particularly water and affordable housing, must be planned well in advance if we are to retain and attract people

What are the problems?

The regional climate is becoming warmer and dryer. Canberra and the region have for some time faced restricted water availability. Dams in the region are at best only half full and residents of the region are on extreme water restrictions.

What are the impacts of these problems?

There are health and social problems associated with the lack of water. Quality of life for residents is reduced and the physical and economic growth of the city and the region is inhibited by lack of water. Canberra Business Council continues to support actions which cost-effectively reduce per capita water consumption and increase water efficiency measures in the commercial and industrial sectors but without more water storage growth is not sustainable.

How might these problems be addressed?

Canberra needs additional water storage and supply initiatives, such as the substantial enlargement of the Cotter Dam and the transfer of water from the Murrumbidgee River to the Googong Dam. These and possible purchase of water for storage in the Tantangara Dam and the design of a Demonstration Water Purification Plant, are not only necessary to minimise severe and frequent water restrictions, they are fundamental to meeting the needs of a growing Canberra population and therefore to the future economic development of the Capital Region.

Given the situation, what should be done first?

The substantial enlargement of the Cotter Dam and the transfer of water from the Murrumbidgee River to the Googong Dam should continue to be the first priority.

5. The ACT Solar Initiative

This is a physical infrastructure project that has potential national significance.

Why is this project important?

- **Increased economic standard of living for Australians**

The ACT has two of the country's three leading solar research institutions and one of the country's two major concentrating solar technology companies. It has a community aware of and interested in managing and mitigating the impacts of climate change, a solar rich climate with more sunny days than any other Australian capital city and is the home of the Commonwealth Government agencies responsible for making and managing the country's climate change policies. It is therefore ideally placed to be a regional, and potentially national, centre for solar research and commercialisation.

- **Environmental sustainability and reduced greenhouse gas emissions**

The ACT Solar Initiative is designed to include conservation, education, research, development, commercialisation and use.

- **Better social outcomes, quality of life, and reduced social disadvantage**

It will deliver benefits to the community at large, as well as to many specific sectors including construction, education, fabrication, research and tourism.

What are the problems?

Canberra's energy needs are largely met by electricity, gas and petroleum products sourced externally to the Territory. Canberra needs to operate in an energy environment that is secure, reliable, and that has capacity for future expansion in demand. Our energy use also needs to be more sustainable than at present.

Use of fossil fuels, particularly in the generation of electricity, continues to impact on our environment. The ACT has been an importer of electricity for some time and therefore had little control over the impact of consumption.

What are the impacts of these problems?

Climate change and the multiple ramifications of global warming are, without doubt, the most serious issues facing society today.

How might these problems be addressed?

The development of local energy supplies through natural gas fired power stations, as well as greater reliance on solar and wind energy and investment in tri-generation should be seen as a high priority for Canberra in terms of economic development as well as a leading edge demonstration to the local community and the rest of the world that we can make positive but practical moves towards more sustainable development.

Canberra Business Council supports the need for a back-up power supply for the ACT and the construction of a high-pressure trunk gas main, both of which would deliver greater security of energy supply.

Canberra Business Council strongly supports the research, development, commercialisation and use of solar technology in the ACT as the next major focus for development in the Region.

Given the situation, what should be done first?

The Council notes that the current ACT Government has committed to a further feasibility study and the development of a business case for a solar power plant. The Council wishes to promote and support the ACT Solar Initiative and stands ready to help facilitate implementation of what is envisaged as stage one – the ACT Solar Farm.