



Conservation Council of South Australia Inc

Submission to the SA Legislative Council Select Committee on Peak Oil.

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The **Conservation Council of South Australia Inc (CCSA)** is the peak conservation body for South Australia, representing over 55 of the State's environment and conservation organisations.

CCSA is an independent non-profit, non party-political, community based organisation which provides resources, advice and representation for the SA environment movement, and which leads many of the key conservation campaigns in SA.

CCSA is also known for its success in developing long term community development, education, and on-ground environmental restoration programs.

CCSA regularly liaises with Local, State and Federal Governments, Government agencies, media, educational institutions, NGOs, unions, industry, business and other groups on matters relating to the environment and social justice.

As a community organization, much of what CCSA achieves is through a large network of skilled volunteers from all walks of life – for its office, on-ground, governance and campaign activities.

The Conservation Council of South Australia is committed to a healthy environment for South Australia.

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Terms of Reference

The **Conservation Council SA's** Submission to the Legislative Council Select Committee on the Impact of Peak Oil on South Australia will focus on the terms of reference below:

- 1. The movement of people around the state, including –**
 - iii. Alternative modes of transport;**
 - iv. The need to increase public transport capacity; and**
 - v. Implications for urban planning;**
- 2. Movement of freight;**
- 5. Primary industries and resultant food affordability and availability;**
- 7. Alternative fuels and fuel substitutes;**
- 9. The need for public education, awareness and preparedness;**

Executive Summary

The Conservation Council of South Australia (CCSA) is pleased to make a submission to the SA **Legislative Council's Select Committee Inquiry into the Impact of Peak Oil on South Australia**. **CCSA** welcomes this opportunity to contribute to the debate on how best we can address our future energy needs and prepare for the unprecedented dual impacts of climate change and oil scarcity.

The cumulative impacts of peak oil (the phenomenon of an ongoing reduction in availability of cheap and easy to extract oil), acting in tandem with climate change, will bring about profound changes in Australia's society, economy and environment.

Peak oil will impact disproportionately on many sectors of the SA economy; rural people, including the farming and mining sectors and associated industries; transport industries, especially aviation and long distance road freight haulage; tourism and hospitality. In fact any manufacturing and agricultural production that relies on petrochemical feedstocks will be exposed and vulnerable to the impacts of peak oil.

The good news is that with foresight, planning and investment we can restructure our economy and society to minimise the negative impacts across the board. Preparing for peak oil is about prudent risk management and fortunately, much of the action we can take will also assist in the mitigation of climate change.

The State Government (along with its federal and local counterparts) must, as a matter of priority, incorporate planning for peak oil into its future planning strategies and projections across the board through an Oil Vulnerability Assessment in the first instance.

We recommend that the State Government develops a Peak Oil Action Plan. This could either be done by the Premier's Climate Change Council (PCCC) if its terms of reference were expanded to include peak oil issues. Or it could be undertaken by a new entity established for the purpose, in close dialogue with the PCCC. Our preference would be the former, provided that the necessary additional support and resources was provided, as this would be the most efficient way to ensure that the interactions and synergies of peak oil and climate change responses are managed.

CCSA believes that just as the Stern and Garnaut reports found in relation to climate change, the earlier the necessary mitigation and adaptation strategies for peak oil are enacted, the cheaper and more cost-effective they will be.

CCSA has provided a number of recommendations to address peak oil that fall under various themes:

Public Education, Awareness and Preparedness

Urban Planning

Transport

 Public transport

 Active transport

 Private transport

Primary Industries and Economic Development

We urge the Select Committee to make the strongest possible call to action to ensure that SA is ready, willing and able to confront the challenges and opportunities that peak oil will pose.

An Introduction to Peak Oil

'Peak oil' refers to the point at which global production of oil is at its highest point ever. After this, rates of production will continue to decline. Meanwhile, the laws of supply and demand ensure that the price of oil will rise significantly as supplies dwindle. This was first predicted by M. King Hubbert, a Shell oil petroleum geologist, who in 1956 accurately predicted that the US production of oil would peak in 1971.

There are two sorts of oil available – conventional and unconventional oil. The latter includes such types as oil shale and tar sands. Whilst there are immense reserves of these types of oil, the energy cost required to extract them is close to parity – ie it would take the energy equivalent of one barrel's worth of oil to produce one barrel of usable oil. The carbon emissions associated with exploiting such reserves also make realistic development of such deposits prohibitive. Many of these types of resources are also located in fragile areas of great environmental sensitivity, which alone would make their extraction costly, difficult and problematic.

As noted above, increasing scarcity will cause escalating oil prices, and in fact we are already seeing this now. This is happening at a time of skyrocketing demand for oil, particularly from the newly industrialising, energy-hungry economies of China, India Indonesia, *et al.* Increasing demand on its own would be likely to increase the oil price, and so there are two processes operating in tandem that will have a devastating and unprecedented effect on the global economy.

Almost every aspect of our lifestyles is dependent on, or related to oil as a source of fuel, or as a raw material to produce other goods. Many of our essential goods and services are locked into a dependency upon oil. These include the production and transport of many of our staple foods, fertilisers, pesticides, as well as other household goods. These include any and all things made from plastics (save rayon and other cellulose-based biodegradable plastics – which comprise only a small fraction of the market) medicines, paints, textiles, clothes and thousands of other products.

To date, the official response to this urgent situation has been either denial or ignorance. Incredibly, South Australia's roadmap for the future, the **SA Strategic Plan** (SASP) does not even mention peak oil. Prominent federal politician Tony Abbott recently admitted he had never heard the term before.

Awareness of peak oil

To adequately address peak oil will require a step change in our awareness and responses.

CCSA proposes a series of measures designed firstly to come to grips with the extent of the problem and to raise awareness amongst the community. These need to be undertaken at a State Government level.

Secondary to this, would be a series of practical mitigation measures to build resilience and prepare our economy and communities for the transition that must take place. These would be a combination of top-down and bottom-up approaches.

Oil Vulnerability and a Peak Oil Action Plan

The urgent first step must be an **Oil Vulnerability Assessment** so we know where we stand and exactly what the problems, challenges and solutions are. This should be carried out by an appropriate government agency, utilising the expertise of the **CSIRO** and other academic resources as required.

Next, we need to develop a **Peak Oil /Oil Vulnerability Mitigation Strategy / Action Plan**. This must be designed to put us in effect on a 'war footing' with regard to the twin (interrelated) challenges of peak oil and climate change.

This would have us neither leading, nor lagging, but we would be amongst the early adopters, in an environment where first mover advantage can pay off.

Other jurisdictions have followed similar approaches to peak oil. Portland, Oregon has established a Peak Oil Task Force that produced a report with a principal recommendation of 'act big, act now', whilst the US House of Representatives has a bipartisan peak oil caucus, and recently the British parliament formed an All Party Parliamentary Group on Peak Oil and Gas¹.

We have determined that action must be taken to address public education about peak oil, to raise awareness and increase preparedness. Given information on peak oil, many people may choose to make very different lifestyle choices. The State Government should take the lead on this.

A Peak Oil Advisory Body

To date, government policy has ignored peak oil, but this approach is no longer feasible. CCSA believes that the State Government should expand the Terms of Reference of the **Premier's Climate Change Council** to include peak oil. The Council could then act as a permanent advisory body to government, tasked with analysing and assessing all government legislation and policy in light of the impacts of peak oil and climate change.

Existing legislation, particularly that related to urban planning, clearly needs to factor in the impacts of peak oil and CCSA has compiled a number of recommendations in this regard. A priority must be to address the ever-increasing urban sprawl that is already problematic and will become increasingly so as oil prices continue to rise.

The 'VAMPIRE index' compiled by Griffith University has highlighted that already 38% of Adelaide suburbs are vulnerable; the lack of public transport in far flung peripheral suburbs reducing the ability of householders to adapt to rising fuel costs².

However, the extreme low density of Adelaide means that the effective provision of public transport to the urban fringe is always going to be problematic in a number of ways.

CCSA therefore advocates approaches to increase urban density – such as **Transit-Oriented Development (TOD)**. This form of development around transit corridors based

¹ http://hansard.parliament.sa.gov.au/pages/loadoc.aspx?eD=2008_02_13&c=25&e=2

² *Unsettling Suburbia*, Jago Dodson & Neil Spie, Griffith University 2008, quoted in *The Advertiser*, 11/8/08 p10)

on light or heavy rail has long been advocated by urban planning experts such as Professor Peter Newman and has now been endorsed by the State Government.

This is to be commended, but to be effective it must be rolled out in conjunction with a moratorium on the **Urban Growth Boundary (UGB)**. Otherwise, instead of focusing infrastructure in areas where it will do the most good and contribute positively to mitigating peak oil (and climate change) impacts, we will be forced to waste resources in trying to provide services for an increasingly sprawling city. This will become increasingly expensive the further we go down the peak oil trajectory.

Reducing Our Energy Consumption

The solution is to move towards a reduced energy consumption path. This in turn will require substantial reworking of our *modus operandi*, but given sufficient political will and investment it can be done.

Practical examples of the type of actions needed form the basis for the bulk of our recommendations in regards to transport, whether public, active (walking and cycling) or private.

Further modifications must be made to our primary industries which will be substantially impacted by rising fuel costs and reduced availability of hydrocarbon-based inputs.

Research and development into alternative liquid fuels is recommended. CCSA suggests that the Select Committee look at the excellent work compiled by the Jamieson Group whose most recent report 'A Roadmap for Alternative Fuels in Australia: Ending our Dependence on Oil' provides a way forward³.

This report includes discussions of alternatives such as improving the fuel efficiency of engines (hybrid/ electric/ diesel) and alternative fuel technologies such as natural gas, (CNG & LNG), LPG, biofuels, synthetic fuels and fuel cells.

The movement of freight across SA must be re-considered. Where feasible, rail transport must be prioritised over diesel-fuelled trucks. Localising the production of foods and other goods is also recommended. CCSA is aware of absurd examples where identical products are transported between Perth and Melbourne in both directions simultaneously.

This sort of profligate fuel waste will no longer be economic in the near future. If we are sincere about reducing our fuel consumption we must increase the proportion of goods and services sourced and produced locally, and look to minimise 'food miles', as well as the embodied energy in foodstuffs (and other products).

Transition Towns

This shift towards localising our lifestyles and communities mirrors the approach taken by some of the first communities to officially respond to peak oil. These include the

³ A Roadmap for Alternative Fuels in Australia: Ending our Dependence on Oil' Report of the Jamieson Group to NRMA Motoring & Services. July, 2008. [The Jamieson Group comprises Mark Diesendorf, David Lamb, John Matthews & Graeme Pearman]

Transition Towns – of which an entire movement has emerged in the UK and USA⁴. Places like Totnes, Kinsale and Stroud are amongst the leaders, with larger cities like Bristol in the U.K. and Oakland and Seattle in the US also taking action.

Many of the initiatives coming from the Transition Town approach are 'grass-roots' emphasising community development, especially with regard to 'localising' food production and basic needs. Such moves complement the larger scale changes that can only be facilitated by governments, such as public transport improvements and infrastructure, but are intrinsically useful and worthwhile in any case.

⁴ See transitionnetwork.org for more information

Recommendations

Public Education, Awareness And Preparedness

1. The State Government should initiate an *Oil Vulnerability Assessment* for SA and seek public input from local government, business, industry and the broader community.
2. A permanent advisory body to government tasked with analysing and assessing all government legislation and policy in light of the impacts of peak oil and climate change should be established. Given the overlap between the issues, this may be effectively done by expanding the terms of reference of the Premier's Climate Change Council to include peak oil.
3. A Peak Oil Action Plan must be produced which must address the challenges, opportunities, impacts, costs and solutions to peak oil.
4. The Peak Oil Action Plan should include a public awareness and education campaign, similar to the programs around climate change, to successfully develop effective behavioural responses to peak oil.

Urban Planning

5. A scientific assessment of the cumulative impacts of peak oil and climate change combined must be factored into every aspect of State Government's strategic planning and projections, especially with regard to the plans to increase both the State's population and the Urban Growth Boundary (UGB).
6. A moratorium on the extension of the Urban Growth Boundary (UGB) must be re-instated. The boundary itself should be wound back through progressive buybacks and acquisitions.
7. Urban planning should instead look to focus development on urban consolidation and higher rise developments (2-6 stories) in selected areas, within a Transit Oriented Development (TOD) context.

Public Transport

8. The Peak Oil Action Plan should include an integrated Transport Master Plan focusing on alternatives to private fossil-fuelled cars.
9. The SA Strategic Plan target to improve Adelaide's public transport patronage to 10% by 2018 should be increased to 25% overall. Targets for travel into the CBD alone should be raised to 50% by 2018. There must be adequate resources provided to ensure they can be met.
10. State Government and Adelaide City Council should facilitate increased use of public transport and active transport via transit lanes, bus lanes and cycle paths. Private car use in Adelaide's CBD should be progressively discouraged. A number of cities around the world provide examples of successful mechanisms to achieve these outcomes.
11. The ongoing re-sleepering, gauge standardization and electrification of the rail network should be fast-tracked. Extension of the Noarlunga to Seaford rail corridor should be progressed in tandem with the other improvements on the Noarlunga line. Purchase of

the Seaford to Aldinga corridor (budgeted for in the 2008 State Budget) is commended and should be undertaken as soon as possible.

12. Pending the conclusion of the study into shifting freight off the Belair line, funding should be set aside to electrify that line. Reinstating passenger services back up through the Hills, potentially extending the service as far as Mt Barker, should also be investigated and assessed.
13. The Tonsley line should be extended to service a hub at Flinders Medical Centre/Flinders University. The line could potentially utilise the extensive car parking facilities at the former Mitsubishi site at Tonsley Park as a Park'n'Ride site for southern commuters to make the last leg of their journey into town via rail.
14. Creative mechanisms to reduce congestion on existing roads should be examined, such as congestion pricing, car pooling, bus and transit lanes and encouraging flexible work times to help distribute the peak hour rush.
15. To help resource the above-mentioned initiatives, the State Government should lobby for a substantial proportion of the federal **Building Australia Fund** to be invested in public transport and active transport infrastructure in South Australia.

Active Transport

16. State and local governments should work together to develop an integrated network of bikepaths and walkways separated from motorised traffic throughout urban areas. Secure, undercover bike parking facilities and bicycle security at public transport stations/terminuses, within the CBD and at suburban hubs should also be provided.
17. The City Free Bike scheme should be expanded and adequate publicity and funding given to the scheme.
18. Traffic calming devices should be implemented throughout residential neighbourhoods and in selected retail precincts to create pedestrian-friendly zones.

Private Transport

19. Federal subsidies for fossil fuel use are perverse, unsustainable and should be abolished. The State Government should argue through COAG to redirect these considerable resources into developing better infrastructure for public and active transport.
20. The State Government should also lobby the Federal Government to make the necessary adjustments so that all-electric vehicles such as the REVA car (quadricycle) can be used in Australia.
21. Incentives for the registration of non-fossil fuelled vehicles should be enhanced. This should include hybrid vehicles, and also differential registration pricing for smaller, more fuel efficient vehicles.
22. A comprehensive assessment of the viability of alternative liquid fuels should be made.
23. Infrastructure for alternatively powered vehicles, such as recharging stations, or alternative liquid fuels, should be established across the State.

Primary Industries and Economic Development

24. The Oil Vulnerability Assessment / Peak Oil Action Plan should consider the impacts of peak oil on the agricultural and mining sectors and appropriate mitigation responses. These should examine how we can increase our self-reliance in food production and reduce the food miles and embodied energy in products we consume.
25. SA's agricultural sector should be assisted to shift to more sustainable agricultural techniques, such as zero-tillage, agro-forestry and organic means of production, that reduce dependence on petrochemical inputs.
26. The State Government should consider how water restrictions might be altered to permit home growing of fruits and vegetables in recognition of the enhanced fuel efficiencies of domestic production.
27. If the car industry is to continue to receive financial assistance, subsidies should be limited to, and focused on, the development and commercialisation of zero-emission vehicles, eg 'green cars'.
28. Research and development into alternative fuels such as second generation biofuels that do not compete with arable land or food crops (such as algae-based biofuels from saline pools, or crop wastes) should be investigated along with other alternatives such as solar hydrogen and other biological feedstocks.
29. There must also be significant levels of investment into research and development into the commercialisation of alternative renewable energies that can provide baseload energy, such as solar thermal, and geothermal energy, to enable electric vehicles to be renewably powered.
30. Business and government must look to reduce fossil-fuel based travel through alternatives such as telecommuting/ videoconferencing or electric very fast trains replacing air travel, especially across short haul flights such as Adelaide –Melbourne, or Adelaide to other regional centres.